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North Eastern Hill University — A Write Up

K.B. Powar

Assuring Equity and Quality in Mass Higher Education : The Indian Context

Ram Takwale

IGNOU's Challenges of Quality, Quantity and Equity

E. Rama Reddy

Automation and Networking Experiences of IGM Library, University of Hyderabad

Mohammed Muzammil

Be Taught to be Studious

B. Sheik Ali

Integration of Culture with Technology — Convocation Address

GIS Training Programme

Career News on Internet

Energy Park at CCSHAU

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IN THIS ISSUE

North Eastern Hill University — A Write Up 1
Assuring Equity and Quality in Mass Higher Education 3
IGNOU's Challenges of Quality, Quantity and Equity 7
Automation and Networking Experiences of IGM Library, University of Hyderabad 17
Be Taught to be Studious 21
Convocation
Kannada University, Hampi 25
Campus News
IGNOU's Teleconvocation 29
Ambedkar's Policy on Education 29
Career News on Internet 31
Agriculture
Energy Park at CCSHAU 33
News from AICTE
Programme Accreditation in Engg & Tech 33
News from Abroad
GIS Training Programme 34
News from UGC
Countrywide Classroom Programme 35
Book Review 37
Theses of the Month 41
Classified Advertisements 57

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

Our Hosts

North Eastern Hill University

A Write Up

North Eastern Hill University plays host to the 246th Meeting of the Standing Committee of the Association of Indian Universities being held at Shillong on 27th May 1996.

With the objectives to disseminate and advance knowledge by providing instructional and research facilities in such branches of learning as it may deem fit; to pay special attention to the improvement of the social and economic conditions and welfare of the people of the hill areas of the North Eastern Region, and in particular, their intellectual, academic and cultural advancement, the North Eastern Hill University came into being under an Act of Parliament in 1973. The jurisdiction of the university extended to the states of Meghalaya and Nagaland and to the then union territories of Arunachal Pradesh and Mizoram. The headquarters of the university was established in Shillong with campuses at Nagaland and Mizoram. Academic departments in various streams were opened in all the three campuses and in addition a University College was opened in Mizoram by taking over a college from the Government of Mizoram in 1979 and also a College of Agriculture was established in Medziphema, Nagaland. Initially the academic departments and the administrative office started functioning in some hired buildings, some of which were later purchased by the university. The Govt. of Meghalaya allotted land measuring 1200 acres free of cost to the university for its permanent campus. Construction on the permanent campus started during the sixth five year plan and with the very limited funds granted by the UGC during the past years, the university could start shifting a few of the academic deptts and establishments to the permanent campus in the year 1986. By the year 1991 a number of constructions and campus development works like staff quarters, external electrifications, water supply, ring road, USIC workshop, Hostels, Guest House and Seminar complex and building for the Regional Sophisticated Instrumentation Centre, etc could be completed. Construction of academic buildings started with Science Complex in the year 1988-89 and was completed within a reasonable time. All the science departments except Chemistry are now functioning in the permanent campus. Though the construction of the Administrative building could not be taken up as yet due to shortage of funds, the administrative office has, however, been shifted to the permanent campus in 1992 and accommodated in the RSIC building temporarily. Under the VIIIth plan allocation, only a sum of Rs. 200 lakhs was sanctioned by the UGC to NEHU for new schemes and as such only a single project namely construction of Social Science Complex in the headquarters at Shillong could be started and is in progress. Besides the above developmental works in the headquarters a number of construction works have also been completed in the two campuses of Mizoram and Nagaland. The Nagaland campus, however separated from NEHU in September '94 as a result of the establishment of a new Central University in Nagaland. In the IXth Plan the university is going to take up a number of developmental and construction projects, namely, Administrative building, Central

Library building, Social Science Lecture Hall, Central School building and staff quarters, external electrifications phase III, etc and many other new projects, provided sufficient plan grant is sanctioned by the UGC.

Though located in a remote area of the country, NEHU has established its position as an ideal institute of research and studies. Under its seven schools of studies, there are twenty six departments and seven centres. The new campus at Tura started functioning last year with only two departments. Besides the above departments and centres, the DST has established the presitigious Regional Sophisticated Instrumentation Centre under this university. There is also an University Service Instrumentation Centre funded by UGC, which has been upgraded to level II this year. More than two hundred regular efficient teachers are engaged in PG teaching and research in various branches of learning. Many of the NEHU teachers are also engaged in various individual and collaborative research programmes within the country and abroad. The teachers in NEHU have won recognition for their valuable research works. Prof. M.K. Choudhury was awarded India's highest and most coveted award "Shanti Swaroop Bhatnagar Prize" in 1990 for his outstanding contributions to scientific research. Prof. H. Junjappa, Deptt. of Chemistry was elected as Fellow of the National Science Academy (FNA) for the year 1990, and Prof. M.K. Choudhury from the same deptt was elected as F.A.Sc for the year 1987. Dr. Nirmalendu Saha of the Deptt of Zoology was presented ISCA young scientists award for the year 1990. It is evident from the above, that commendable researches are being done by the NEHU teaching community. Number of funding agencies are interested to grant funds to NEHU teachers for various research projects. Besides the specific research projects from various funding agencies, initiated by the individual teachers, notably CSIR, DST, DBT, DAE and the UGC, the university is also managing a number of endowments for the promotion of objects relevant to the North East, through delivery of lectures. Award of Cash Prize and Book Prize through the endowments have also been launched to give incentive to the students in academic performance. NEHU also organises a number of national and regional conferences, seminars and workshops every year.

NEHU has a vast field of activities. It has got fifty two undergraduate and six postgraduate colleges affiliated to it. The NERIST in Arunachal Pradesh is also affiliated to NEHU.

The university can boast of its voluminous collection of books and periodicals. The NEHU Library had a collection of 1,73,624 books and bound periodicals as on 31.3.95. The average number of readers using the library per day is 450.

NEHU has made its place among the three universities in the country to be awarded the prestigious Rajiv Gandhi Foundation Chair in the year 1995. The study awarded to the North Eastern Hill University is on "Protective Discrimination".

During the IXth Five Year Plan NEHU is going to extend its field of activities through a study of the neighbouring countries like Bangladesh, Myanmar, Eastern Tibet, Bhutan and Nepal in regard to the regional geography, environment, resources, communities, languages, politics, and economy, etc. These countries are strongly interlinked with this hill region.

The future vision of the university in view of certain vital trends emerging on the academic scene in the on-going socio-economic transformation in the country, is to have more linkages between schools and schools, schools and departments and departments and centres for a more focused and concerted output. This, we trust, will distinguish NEHU from other central universities.

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Assuring Equity and Quality in Mass Higher Education: The Indian Context

K.B. Powar*

Introduction

In the (near) five decades since India achieved independence, in 1947, its higher education system has undergone a remarkable transition from an elite system, nurtured by colonial roots, to a mas system attempting to meet the needs of a vibrant democracy, committed to the principles of equity. The transition, marked by a twelve-fold increase in the number of university-level institutions, and an approximate twenty-eight fold increase in the number of students, has led to the emergence of the world's second largest higher education system comprising, as of today, 223 university-level institutions, over 8500 colleges, and about 5.5 million students. The different academic institutions constitute a network, spread over the entire country, and cover diverse geographical, cultural and socio-economic environments. It is not surprising that there are considerable variations in facilities, ethos and quality of education. The National Policy on Education, adopted in 1986, looks upon education as a process of empowerment, through the imparting of knowledge, skills and values to the individual; and as an instrument of social change, to be promoted by providing opportunities for upward social and economic mobility. This implies making higher education available to all who desire it.

The Facts

In order to apprehend the magnitude and complexity of the problem faced by Indian higher education it is necessary to review the factual position. It is to be noted that:

i) Since India gained independence, in 1947, the number of universities (including 'deemed to be universities') has increased from 18 to 223 (in January, 1996), and of colleges to over 8,500. However, about half of the colleges are not eligible for funding by the University Grants Commission.

ii) In the same period the number of students has increased from 0.2 million to about 5.5 million. The annual growth rate, which was as high as 10% in the 1950's and 60's, but declined to about 5.3% in the 70's, and was 4.2% in the 80's (*Pillai*, 1992), has now stabilised at about 4.5%. However, the possibilities of its increasing to about 5%, in view of visualized economic growth, has to be considered.

iii) Though the National Policy on Education, 1986 (*Government of India*, 1986) explicitly states that the doors of institutions of higher learning should be open to all, without discrimination, only about 6% of India's young people in the relevant age group of 18-23 years are actually in higher education. This is abysmally low compared to over 75% in U.S.A., about 40% in Western Europe, and 18-20% in Southeast Asian countries. Only China, Sri Lanka, Pakistan and Bangla Desh have lower percentages of enrolment (*Tilak*, 1995a).

iv) Men students outnumber women students in the ratio 2:1. In 1993-94 the number of male students was 3.04 million against 1.53 million female students. However, women enrolment has increased from 28.4% in 1983-84 to 33.1% in 1992-93 (*Government of India*, 1994).

v) Approximately 88% students in Indian higher education are in undergraduate programmes in the Liberal Arts. Enrolment in the faculty of Arts (including Social Sciences) has now stabilised at 40% after having reached a peak of nearly 45% in 1975-76. Surprisingly the enrolment in Science faculty has come down from 30% in 1960-61 to 19.6% in 1992-93. Enrolment in the Commerce faculty is showing a steady increase and is about 23%. Enrolments in Engineering and Technology, and Medical faculties are respectively 4.9% and 3.4%. The number in Agriculture and Veterinary Science is

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[Background Paper circulated to Executive Heads attending the ACU Conference on *Universities in an Age of Mass Higher Education: Management of Quality and Standards* held at Malta on 25-29 March, 1996.]

**Secretary General, Association of Indian Universities, New Delhi-10 002.*

low, about 1.5% (*Aggarwal*, 1995). A developing country like India cannot afford the luxury of so many students in the Liberal Arts in comparison to those in professional education.

vi) In India higher education is largely financed by the government. Dandekar (1991) estimated that in 1993-94 the central and state governments would be contributing Rs. 40 billion to higher education. The government spends 3.7% of its DNP on education of which the share of higher education is 0.8%. The total share for education is to go up to 6% by the end of the century, but the share for higher education is unlikely to increase appreciably. Incidentally, the share of the higher education was 0.71% in the First Five Year Plan, increased to 1.24% in the Fourth Five Year Plan, declined in subsequent plans to be only 0.35% in the Eighth Five Year Plan. Budget allotments to the University Grants Commission (UGC) have been erratic, but the allocation has marginally increased from Rs. 5275 million (RE 1994-95) to Rs. 5311 million (BE 1995-96) (*Tilak*, 1995b). The bulk of the UGC funding is for the 19 central universities and institutions (71%) and about 4250 colleges all over the country (26%). Other institutions (including state-funded universities) receive about 3% (*Powar*, 1995).

vii) In the case of most universities the contribution from student fees is less than 10%, though some universities in western and southern India have large savings from examination fees. A few universities show substantial incomes from the conduct of correspondence courses. The income from consultancy services is negligible, except in the case of the Institutes of Technology.

Access and Equity

In a democratic society access to higher education must necessarily be linked to equity. In keeping with this philosophy the National Policy on Education, 1986 (*op. cit*) emphasises the need to remove disparities and to equalise educational opportunities, especially for those who have been denied equality in the past. The categories identified for special consideration are women, the scheduled castes and scheduled tribes, the handicapped, the educationally backward sections and the socially backward areas. Reservations are provided in educational institutions, and admission qualifications relaxed for students from most of these categories. In addition financial assistance is given to them by governments in the form of freeships and grants. Yet disparities in enrolment of general against scheduled caste/tribe students, and gender disparities persist. In an effort to remove the latter, women's studies is being encouraged, and efforts made to introduce teaching and research on gender issues (*Desai*, 1995). Reservations are also operative in respect to recruitments to teaching and non-teaching positions in colleges and universities. The access to private professional colleges, where the fees charged are beyond the reach of most students from low and middle income groups, has also now been facilitated by judgements of the apex court. It is now mandatory to admit 50% of the students against 'free seats' (that require nominal fees) on the basis of merit. Thus, in India the thrust of the educational policy is on 'growth with equity', though there are shortfalls in actual implementation. It must, however be admitted that to an extent quality has been affected.

Distance Education

The National Policy on Education, 1986 visualises distance education as being an instrument for democratising education and a mechanism for augmenting opportunities for higher education. At present there are four functioning open universities (including the Indira Gandhi National Open University at New Delhi) and 57 Correspondence Course Institutes, that provide access to higher education to those who cannot avail of it through the formal mode for financial reasons, or because they are employed or because they were unable to get a seat in regular colleges and universities. The open universities which adopt multi-media communication technologies hold promise of independent, but quality learning at a distance. The same cannot, however, be said of the Correspondence Course Institutes, many of which are without adequate provision of infrastructure and instructional inputs, but have large student intakes. Efforts are underway to reorient these Correspondence Course Institutes to the distance education mode. Student enrolment in distance education is about 13%, but it is visualised that in the near future the open universities will take up a larger share of the students wishing to avail of higher education.

Financial Stringency

Higher education in India, as elsewhere in the world, is facing severe financial constraints. Efforts are underway both to control expenditure and to raise additional financial resources. The UGC recently assigned to the Association of Indian Universities (AIU) the task of evolving methodologies for the calculation of 'unit costs'. The results of an initial exercise covering four universities (*Powar et al.*, 1995) show that the costs for similar programmes in these universities are highly variable. The exercise has helped identify 'where the money is going'. It is expected that similar exercises conducted for all other universities, will help in rationalising expenditures. Efforts are also being made to generate additional income by rationalising fees, adopting a differential fee policy for international students, collaborating with industries, and securing alumni support.

Privatisation of Education

Noting the inability of the governments to meet the demand for higher education many private trusts and bodies have come forward to establish colleges — especially in the professional areas of medical, engineering and technology, and management. Many of these colleges are business enterprises, their primary motive being financial profits and/or political power (*Tilak*, 1990). At the same time it has to be accepted that some of them are maintaining high academic standards. The fact that one can 'buy admission' on the basis of 'ability to pay' has created problems of equity, and the apex court has since stepped in to ensure that half the admissions to these colleges are made against nominal fees, on the basis of merit; and that even amongst 'payment seats' (for those who are willing to pay higher fee) admission is merit-based. The question of permitting the establishment of private universities is under the consideration of the Indian government.

Enhancing the Quality of Education

The University Grants Commission has been assigned the responsibility of ensuring the qualitative development of education. It has undertaken various measures towards improving quality. These include :

i) laying down of minimum standards of instruction for grant of first degree through formal education, and through the distance education mode;

ii) introducing a College Science Improvement Programme (COSIP) and a College Humanities and Social Science Improvement Programme (COHSSIP) under which financial assistance is granted to predominantly undergraduate institutions for development of teaching capabilities, through curricula development, and for procurement of equipment, teaching materials, and books and journals;

iii) introducing a programme of the Committee for Strengthening of Infrastructure in Science and Technology (COSIST) under which assistance is given to selected departments, in universities, to acquire sophisticated and expensive equipment necessary for internationally competitive research;

iv) starting of a Special Assistance Programme (SAP) under which selected departments, in universities, are provided support at three levels, namely, as Department of Research Support (DRS), Department of Special Assistance (DSA) and Centre of Advanced Study (CAS);

v) encouraging research by making provision for grants for major and minor projects, and by instituting research associateships, career awards, visiting associateships and fellowships for senior teachers;

vi) setting up of Curriculum Development Centres for developing model curricula at both undergraduate and postgraduate levels;

vii) establishing Academic Staff Colleges for staff development through orientation courses (for new teachers) and refresher courses (for serving teachers);

viii) granting autonomy to selected colleges (Autonomous Colleges) in order to facilitate innovations in areas like restructuring of courses, curricula development, teaching-learning process, and evaluation process;

ix) providing financial assistance for the development of computer facilities and computer education; and for establishment of computer centres;

x) establishing University Science Instrumentation Centres (USIC) for training of experimental scientists, and for generating interest amongst students in recent advances in science and technology; and

xi) setting up autonomous Inter-University Centres for facilitating advanced research.

Accreditation as a Means of Quality Assurance

Indian educationists and planners have all along been aware of the need to maintain quality in education and research. The various commissions and committees that have reviewed Indian education have stressed this aspect. For example, the Committeee for Review of National Policy on Education (*Ramamurthi Committee*) (Government of India, 1990) has emphasised that "*The quality of higher and technical education in the country is to be improved in real terms not only to make them relevant to our society as it is, and as it is envisaged, but also to cater to the needs of competitive industry, indigenisation of technology, including research and development therein, and their application.*" The need to place an emphasis on quality has been brought into focus by recent global events, that have contributed to the internationalisation of education.

The *'Programme of Action'* emanating from the National Policy on Education, 1986, (*op. cit.*) calls for the development of an assessment and accreditation mechanism for maintenance and promotion of education. Accordingly a National Assessment and Accreditation Council (NAAC) has been established by the University Grants Commission; and a National Board of Accreditation (NBA) has been constituted by the All India Council for Technical Education. Maintenance of quality in distance education is the responsibility of the Distance Education Council (DEC) of the Indira Gandhi National Open University. Assessment and accreditation exercises have been initiated by these bodies, and hold much promise.

Conclusion

In the coming years, as India develops its economic base, the demand for higher education is likely to increase substantially. The basic problem is that of providing adequate opportunities to all young people who would like to have the benefits of higher education — especially professional education. Added to this is the question of maintaining quality that would be globally competitive. To meet the requirement considerable resources (and planning) will be required. How to provide for mass higher education, and yet maintain quality is the Indian dilemma. But then most developing countries (and developed ones too) face this problem.

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IGNOU's Challenges of Quality, Quantity and Equity

Ram Takwale*

Introduction

Open learning system has been initiated in India to augment opportunities for higher education, as an instrument of democratizing education and to make education a life long process Indira Gandhi National Open University (IGNOU) was established in 1985 for fulfilling a dual role: as an open university and as an institution for coordinating, promoting and determining standards of distance education (DE) in India[1]. During the last few years IGNOU has grown in all its activities and is one of the five mega open universities in the world.

The expectation of *'democratisation of education'* in the Indian context assigns unforeseen responsibilities to the open learning system. The Indian formal education system, with over 220 universities, around 8000 colleges and an enrolment of about 6 million covers only 7% of the 17-22 age group, which is far less than in the developed countries. The existing enrolment of about one million in DE institutions forms about 13-14% of the tertiary enrolment. Any expectation to reach the level of developed countries would need a three-four fold increase in student numbers. Added to this are the adult groups at higher ages who need higher education in the modern fast developing and changing society. The challenge of quantity is in giving access to millions. The challenge becomes quite formidable if one considers the heterogeneity in socio-economic and educational background as well as the multi-lingual composition of the Indian population.

The process of globalisation is bringing in many new dimensions, one of which is the maintenance of high standards in educational materials and services, which are expected to be comparable and competitive at national and international levels. This is bringing in the concern for quality. Since knowledge is becoming, in the post-industrial scenario, a driving force for the engine of development, no country can afford to keep its people without education. In a country like India, faced with socio-economic and regional disparities, providing equity in access and success in educating people becomes an important challenge.

Indian Distance Education System is therefore facing challenges of quality, quantity and equity. The challenges are quite formidable and need concerted national efforts to face them effectively. IGNOU as a *'national'* open university (OU) with different types of roles is expected to lead the development of the OU system that could help in facing the problems successfully. The paper considers the background of various developments going on in India and proposes broad strategies and programmes to be adopted for successfully tackling the concerns of quantity, quality and equity.

Distance Education System

The Distance Education System in India consist of two types of institutions; dual mode universities having Correspondence Course Institutions (CCIs) and single mode universities — the Open Universities.

Correspondence Education

Started in the sixties in response to giving wider access to those who could not continue their university education, the correspondence course education has expanded considerably. In 1962, the first School of Correspondence Education was started by Delhi University. 44 Universities had correspondence course institutions (CCI) offering education to 524,435 students during 1993-94. Out of these dual mode universities, five had enrolment of more than 50,000, 22 universities had enrolment ranging from 500 to 10,000 and 4 had less than 500. Most of the CCIs offer courses in the areas of humanities, social sciences and commerce. Professional courses are mostly in teacher education, management and computer education. Some specialised universities like BITS, Pilani and J.N. Technological University offer courses in engineering subjects. About 12 CCIs have relaxed formal entry qualifications for admission to their degree programmes of general nature[2].

Paper presented at the ACU Conference of Executive Heads on *Universities in an Age of Mass Higher Education : Management of Quality and Standards* at Malta, 25-29 March, 1996.

**Vice-Chancellor, Indira Gandhi National Open University, New Delhi-110 068.*

Open University System

The open university system was established in India to introduce and develop open and distance education that is innovative, flexible in its offerings and open in terms of methods and modes of learning and evaluation. It is expected to be an alternative cost-effective non-formal channel of education, supplementing and complementing the conventional channel by offering a *'second chance'* of education to those who missed the formal stream.

Out of the seven open universities established so far, the two [Nalanda Open University (NOU), 1987 and M.P. Bhoj Open University (BOU), 1992] are non-functional and Babasaheb Ambedkar Open University, Gujarat is in the process of launching its academic programmes. The broad features of the four fully functional open universities i.e. IGNOU, Dr B R Ambedkar Open University (BRAOU), Yashwantrao Chavan Maharashtra Open University (YCMOU) and Kota Open University (KOU) are given in the Table for an overview of the system. The magnitude of operations can be noted from the number of programmes and courses offered by these universities and the total enrolment of learners. The annual student enrolment of these four universities was 200,939 in 1995, with a cumulative enrolment of 571,983. These universities have established a wide network of Regional Centers and Study Centers for providing student support services. Around 20,000 academic counsellors have been engaged by these universities to provide tutorial and counselling services to learners. The counsellors are mostly full-time academics of the conventional system, and take up their assignments on a part-time basis. The open universities also employ full-time academic, professional, administrative and technical staff to manage the system. The total staff engaged by these universities on a full-time basis is 2,359 of which 540 are academic staff. The open universities in India, though few in number, have created an impact on higher education by developing a wide range of programmes, by employing audio-visual technologies in instructional materials, and maintaining high standards. The learning material is self-instructional in nature and covers a wide range of subject areas usually not covered by dual mode universities. Seventy nine programmes with 840 courses at different levels i.e. certificate, diploma, degree, post-graduation and research levels offered by the four OUs cover in general professional, technical/vocational programmes besides the conventional disciplines easily accessible to the distance education mode[3].

The open universities use the course-team approach to develop multi-media instructional materials with in-built quality assurance devices. The programmes are offered through Study Centers (SC) or Work Centers (WC) spread all over the region under the jurisdiction of the University. The SCs/WCs are coordinated and helped in the academic delivery by the Regional Centers. Academic counsellors are usually local experts working in and around the institutions where SC/WC is located. They are oriented to the DE mode and they encourage and assist students in their self-study and assess their assignments periodically. The assignments form a part of continuous evaluation and have a weightage of 25-30% in the final evaluation. The course end evaluation is carried out at the SC/WC under the supervision and control of the university.

Table: Open Universities in Brief - 1995

Details of Information	IGNOU	BRAOU	YCMOU	KOU
Programmes on offer	34	14	20	11
Courses on offer	372	178	171	120
Students Registered	91,398	57,499	43,485	8,557
Students on Rolls	242,000	180,000	129,863	20,120
Regional Centers/P.G. Regional Centers	16	12	7	6
Study Centers	244	100	353	24
Academic Counsellors	12,800	3,245	1,922	1,914
Students awarded Degrees/Diplomas/ Certificates	8,917	20,582	1,300	—
Audio Programmes Produced (Cumulative)	605	1,732	226	—
Video Programmes Produced (Cumulative)	512	178	101	—
Staff Strength	1,259	495	268	373

IGNOU and its Apex Body Role

In pursuance of its role as an **apex body** for the distance education system in India, IGNOU has established a statutory body, the Distance Education Council (DEC) in 1992. IGNOU is slowly acquiring the third role of the **Resource Center** through

(i) Staff Training & Research in Distance Education (STRIDE) for training of all the functionaries in distance education in India and South Asia;

(ii) Electronic Media Production Center with state of the art facilities to be used at the national level for developing audio-visual support to learning materials; and

(iii) Teleconferencing Facility with uplink to extended C-band transponder given by the Indian Space Research Organisation for training and developmental activities through distance education.

IGNOU has taken bold initiatives in developing and offering programmes in disciplines like computers, management, nursing, engineering, etc by evolving innovative delivery methods.

Policies and Performance

IGNOU set up a Distance Education Council (DEC) as a statutory body in 1992 for the promotion, coordination and determination of standards of the open university/distance education system[4-5]. DEC is expected to carry out the following activities:

- Take steps for networking the state open universities and other distance education institutions, for sharing courses and programmes and developing a pattern and structure for the open university programmes that would facilitate student mobility across programmes as well as institutions;
- Promote open university/distance education programmes structured on a modular pattern with provision for transfer of credits. Students will have the facility of registering for courses of their choice which, in appropriate combinations, will enable them to obtain certificates, diplomas or degrees;
- Encourage joint development of programmes and courses by IGNOU, state open universities and the directorates of correspondence education of conventional universities;
- Recommend financial assistance from IGNOU to state open universities for their development and for undertaking specific projects;
- Initiate steps to organise programmes of training for the development of human resources for the open university/distance education system especially in such areas as course development and production, organisation of support services, etc. The possibility of establishing institutional mechanisms for this purpose will be explored; and
- Assume the responsibility for developing the existing correspondence education programmes on a selective basis and converting them into distance education programmes of an acceptable quality.

However, for the time being, the responsibility for the development of distance education programmes in the conventional universities remains with the UGC with close consultation between the UGC and IGNOU in the development of such programmes.

In response to the policy directives, IGNOU has established STRIDE for training and research in distance education. UGC has developed guidelines in consultation with IGNOU for transforming CCIs to the DE mode. A joint UGC-DEC Committee established in 1995 is promoting the transformation of CCIs to the DE mode. The CCIs may come under DEC jurisdiction from the 9th Plan period starting from 1997-98.

A policy decision that each state should establish an open university was pursued but has met with little success. During the 7th Plan period (1987-92) four universities i.e. KOU, NOU, YCMOU and BOU were established. During the 8th Plan period (1992-97) Gujarat OU was established in 1994 and two more i.e. Karnataka and Kerala OUs are in the offing.

On the use of electronic media and new communication technologies in distance education, the Central Advisory Board on Education (CABE) Report - 1994[6] recommends in general:

a) Creation of an educational broadcast system for sectors of education, particularly to support distance education, that includes dedicated TV and Radio channels serving both nation-wide needs as also local, language/region-specific needs;

b) Greater use of communication technologies by DE institutions, and the creation of adequate facilities for software development; and

c) Research and development in communication technologies keeping in view future development and needs.

The next few years may witness a sudden increase in the extensive use of newer technologies of mass communication and personalised interaction, which may bring about a paradigm shift in open and distance education.

Enrolment & Programmes

The four OUs had an enrolment of around 118 thousand in 1992. By 1997, it is expected to increase by 400,000. In fact the open and distance education systems are expected to attract 50% of the school pass-outs and raise its total share from 11.5% of the total enrolment in Higher Education in 1992 to about 16.5% in 1997[7]. Enrolment of OUs and CCIs is around one million and forms about 13-14% of the total tertiary enrolment.

Observations

1. OU enrolment is more in the mature age group of 23-35 years. Students passing out of higher secondary in the age group of 17-21 find the conventional system more attractive. The total enrolment did not rise to the targets set for the 8th Plan.
2. Professional courses like management, computers and teacher education have a far higher enrolment and greater demand. IGNOU enrolment in management courses rose from 4300 in 1987 to 62,000 in 1996. Computer courses were launched in 1992 and the enrolment in two OUs (IGNOU & YCMOU) has gone upto 25,000.
3. IGNOU courses use English and Hindi as media of instruction. Only three other regional languages are covered by state open universities and eight major regional languages are yet to be covered. This has also affected the coverage.
4. Features such as range of courses, flexibility and modularity of the open learning system are not yet fully exploited. Short term, need-based and relevant courses fulfilling requirements of various target groups will have far more demand.
5. OU System is suffering from centralised structures, lack of quick communication with its students and reliance on formal system for academic services to students at the Study Centre (SC) level. Various alternatives have to be evolved by developing decentralised system and employing communication technologies.
6. OUs are still working in isolation and for wider access and diversity it will be necessary to adopt a partnership approach with many institutions and organizations which need training & education for their development. This will also ensure the relevance of courses offered.

We are now at the stage of preparation of plans and programmes for the 9th Plan period (1997-2002).

Challenge of Quantity

After a decade of educational services, IGNOU has earned recognition and respect for the quality and standard of its programmes. The D.E methodologies offered by the OU System are being appreciated and are in demand by many ministries and agencies for solving their longstanding training needs and for extending some of the developmental programmes like *'Panchayati Raj'* to the grassroot levels. Such demands include

1. In-service training of primary and secondary teachers;
2. Training of village level functionaries for implementing 'Panchayati Raj' (self-government rule) programme;
3. Skill training and entrepreneurial development of youth in rural areas linked with programmes like TRYSEM and JRY related to training and employment of youth in rural and urban areas;
4. Training of health workers, police personnel etc; and
5. Dissemination of recent agricultural science and techniques to farmers through extension services and agro-science centres.

In the examples cited above, the total target group in each case has a size of a few millions. In India, every delivery of a programme going to the people will have to be conceived in different regional languages.

IGNOU is trying to adopt the types of activities mentioned above as its extension and continuing education programmes. They are to be developed and delivered through collaborative efforts with the ministries concerned and public, private and non-governmental agencies. The role of the OU is limited to the development of successful methodologies and relevant materials to achieve the goals of the programmes.

The formal education system serves 106 million students at the primary stage, 39 million students at the middle stage, 23 million students at the secondary stage and 6 million students at the tertiary stage of education. It has been observed that nearly 75% of students dropout of education before they reach the 10th standard leaving only 25% to avail of higher secondary education. The figure further drops to about 6% at the tertiary level in the 17-23 years age group. With the achievement of universalisation of education at the school stage, the current enrolment at the tertiary level will have to be fourfold. The developed countries with their present coverage of 20-30% of potential learners at the tertiary level, are already attempting to raise this figure by expanding their education system. Trying to reach a comparable target in India will mean a manifold multiplication of the existing facilities. Resource limitations of a developing country will not allow large scale expansion of the formal system, and hence the OU system is considered a cost-effective alternative to absorb increasing enrolment.

While considering the need for higher education, we should not forget the adults working in the rapidly changing world of work. In fact that is the main largest group of the open learning system. The development of a modern technological society, which demands quick changes in the skills of the work force, needs educational and training facilities on a large scale.

An overview of the total target groups clearly indicates that the OU system in India has to develop its structures and programmes to fulfil the higher educational and training needs of millions of people. IGNOU alone cannot cope with the challenge and the educational policies clearly indicate a collaborative and partnership approach for pooling resources and expertise of all the OUs and DE institutions for developing diversity in its programme offerings and extending outreach to millions.

Strategies for Ensuring Quantity

For facing the challenges of quantity and diversity IGNOU, as a leading university, is adopting the following strategies and programmes:

1) To consolidate the existing OU activities and expand them by re-engineering university structures on the basis of decentralisation of operations and student service related activities at the Regional Centres and Study Centres;
2) Use mass communication media (broadcasting and tele-conferencing and computer network) for offering academic counselling, services and training over the network for large scale dissemination of educational programmes;
3) Develop Regional Centres and Study Centres as resource centres and promote establishment of multi-media learning centres all over the country through private and public institutional participation;
4) Ensure and encourage participation of public and private institutions for jointly developing and delivering educational programmes;
5) Offer a large number of short-term relevant learning capsules through continuing and extension education for allowing large scale enrolment. It will be essential to use modern technologies for ensuring flexible features of open education such as walk-in admissions, on-demand examinations, credit accumulation, academic upgradation etc; and
6) Cover wide areas of subjects and topics required in a wide variety of activities related to living and working at various levels in sectors such as services, industry, agro-industry, education, culture etc.

Educational Networking of Open & D.E. Institutions

The plans and programmes of DEC include evolving a model of sharing DE include resources for strengthening the system and extending its outreach[8].

One of the major programmes undertaken by DEC-IGNOU is the development of Open Educational Network (OPENET) in India. The OPENET at the beginning will have the following components:

(a) *Physical and Intellectual Network* of 41 Regional Centres offering 79 Academic Programmes with about 800 courses, with 20,000 counsellors through 721 Study Centres from where five hundred thousand students will be served annually. The RCs and SCs will be developed as the Resource Centres of the Network;

(b) *Broadcast Network* for offering programmes of education and training on an interactive Communication Channel through national broadcast on education channel and Teleconferencing network of Teaching End and Receiving End rooms. The Teaching End room is located at IGNOU headquarters with uplink to extended C-band and Receiving End rooms are located at 23 places covering RCs of IGNOU and some study centres. Plans are to reach all RCs and SCs in the near future; and

(c) *Computer Network* that will link all the open universities and their Regional Centres and in future all Study Centres for communicating voice, data and images.

The OPENET will be integrated to facilitate information flow through a network at the national level such as NICNET, ERNET or International network. It will also be expanded to include all the distance education institutions.

Programmes of DEC

The DEC fulfills at present the Apex Body role of IGNOU through co-ordination, promotion (giving grants to state open universities and distance education institutions for their development) and maintenance of standards. The last function, in due course of time, may become assessment and accreditation of DE programmes and Institutions (OUs and CCIs).

The DEC has now started developing the following programmes :

(i) Common pool programmes from IGNOU and state open universities (SOUs). Later on programmes from correspondence course institutions (CCI) could be added to the common pool;

(ii) Development of norms and criteria for judging standards and quality of programmes;

(iii) Sharing of common resources by SOUs and CCIs. An MoU is being developed with Gujarat State OU to use Regional and Study Centre facilities jointly;

(iv) Consortium of IGNOU & state open universities on an equal basis for developing a common educational network (OPENET);

(v) Common and central data bases for all distance education institutions in India; and

(vi) Credit transfer system amongst OUs and later on among other institutions.

At present IGNOU forms the major resource centre for DEC in all its programmes. In the development of the DE system in India, market motivation is going to be a major attraction and some DE institutions may offer programmes without adequate attention to their quality and standards (e.g. Management courses through DE). DEC has to play an important role in such a situation.

Programmes of Continuing and Extension Education

In a country like India, with great disparities in economic status and educational background, the university system has adopted extension education as its third dimension, teaching and research being the other two. Extension has been perceived as extending the knowledge possessed by the few and concentrated in some places to people at large who need it for their sustainable development. IGNOU is adopting this function and proposes to offer its network support along with services in giving education and training to empower people and their organization i.e., Non-Governmental Organizations (NGOs). The delivery will be through private and public organizations. The programmes are being conceived in response to the needs of the people as assessed by the developmental agencies and organizations and delivered through close collaboration with these agencies, NGOs and others. The programmes of continuing and extension education may form a major thrust of expansion of the open university system to large numbers. IGNOU has the plans and programmes of extending education in *Panchayati Raj* (Self-Government Rule) to the village level functionaries, computer education, technical & vocational education etc.

It is hoped that the networking of open universities and DE Institutions may lead to an increase in access from the present size of one million to two in the degree/diploma programmes and to a few millions in continuing and extension courses by 2001. Developing educational technologies for large scale education is the major task of the OU system.

Challenge of Quality

Concern for quality is of recent origin. So far, it was accepted that the quality and standards of educational programmes are to be judged and decided by the academic community in the university; and the autonomy of the university does not allow outsiders to interfere in any way in this function. The picture has changed substantially during recent times. For maintaining quality and standards in professional education in India, various national councils such as All India Council for Technical Education (AICTE), Medical Council of India (MCI), National Council for Teacher Education (NCTE), Distance Education Council (DEC), National Assessment and Accreditation Council (NAAC) have been established. Expansion and proliferation of education associated with societal and political pressures obviously lead to dilution of standards in university programmes and lead to the creation of '*outside*' authorities for the maintenance of standards.

Recently a new shift in providers of education is taking place. Besides the conventional university institutions, unconventional institutions, often originating from various sectors such as industry, banking etc are becoming providers of education partly to fulfil their sectorial needs. Some are entering into the '*educational market*' to offer '*marketable*' programmes in the areas of management, computers etc. This diversity requires institutional structures and mechanisms for assessing quality and accrediting institutions for the benefit of the customers i.e. students.

DEC has the responsibility of the maintenance of standards in DE programmes. It is, therefore, working closely with similar institutions (NAAC, NBA of AICTE, NCTE, etc) in establishing quality assurance mechanisms. The following activities are being planned[9].

1. Establishment of norms for the maintenance of standards in programmes such as in management, computer and teacher education through DE;
2. Transformation of CCIs into DE mode by following the guidelines evolved by the UGC;
3. Development of manuals for assessing and accrediting DE courses, programmes and institutions; and
4. Development of a system for ensuring/assessing the quality of programmes provided by DE institutions.

In a country like India where heterogeneity is great and the majority are disadvantaged due to their location in rural areas, socio-economic conditions and lack of educational access to better equipped institutions, there has to be a radically different approach to the maintenance of quality.

One of the approaches being developed is the national support through networks, particularly through broadcasting and teleconferencing, by offering counselling, teaching/training in common pool programmes. At present IGNOU-DEC has receiving-end rooms at 23 places and proposes to cover 200 locations within a year.

Challenge of Equity

India is a country with a large population (900 million) and with wide disparities in socio-economic and educational backgrounds. One of the major programmes undertaken by the government is the Literacy Mission aspiring to eradicate illiteracy (48%) and offer functional literacy and skills to neo-literates. Nearly 25% are still below the poverty line and the recent policies of liberalisation and globalisation have increased the pace of development and substantially reduced the number of those below the poverty line. All these factors lead to the adoption of policies to eliminate disparities. Some of the major steps already adopted are:

1) Reservation of seats in admission to educational programmes, in positions of teaching and non-teaching staff of institutions;
2) Free education to socially backward students. No tuition fees for economically backward students and free education to girl students in some states; and
3) Provision of facilities such as hostels, books to disadvantaged students.

However, the process of removal of socio-economic disparities is quite slow and painful and India is struggling to establish a society based on equity and justice. As the education expands with a quantum jump due to the paradigm shift brought about mostly due to the communication revolution, access to education will be necessary to take advantage of development processes to improve the standards and quality of life. The rich can have such access easily, but not the poor. This may lead to a widening disparity between rich and poor. While considering the quantity and quality of education, equity therefore acquires equally great, if not higher importance, in the process of development of a just and humane society.

Modern communication technologies (CTs) are costlier and may not be available and accessible in rural and hilly areas and to poorer people. However, with a little political will and appropriate national policies, communication technologies have a great capability to reach the unreached and to bridge the gap of disparities. The process of education with a conventional approach is dominantly of a '*diffusion*' or '*cascading nature*', with best educational facilities being available at metropolitan cities and lesser and poorer facilities available in towns, districts, blocks and, villages, in that order. Now with the employment of CTs, the best expertise and learning facilities could be made accessible and available to all the disadvantaged learners wherever they might be located. The following approaches are proposed:

1) The use of mass communication media for reaching all in English, Hindi and in each major regional language. Community learning centres equipped with TV and other learning facilities could be established in every village school;
2) Develop computer networks that could reach every place with a telephone receiver and give access to educational resource centres. Private and public institutions and organisations may establish such educational facilities and the nation can provide toll-free educational services to disadvantaged learners;
3) Establish multi-media learning centres with public and private support and offer free or economic use of facilities to disadvantaged learners;
4) Promote partnership with Non-Governmental Organisations for empowering peoples' organisations and people by offering appropriate and relevant education and training programmes; and
5) Identify and adopt best indigenous models of mass education appropriate for adoption in the DE system aimed at achieving sustainable development.

IGNOU's Challenges

The open and distance education system is best suited to face the challenges of quantity and quality. The vision of IGNOU-2002 proposes to establish OPENET that may have a consortium of all open and distance education institutions. All the policies and programmes outlined above may lead IGNOU to be an institution of a completely different nature. It will play various roles such as open university, agency for coordinating, promoting and maintaining standards in DE (DEC), a national resource centre, etc. It will be a lead organization playing a catalytic and promotional role to develop the open university system in the country.

To sum up, during the next five years the OU system should try to

1) develop OPENET providing access and an information communication network to all educational institutions in India as a national facility,
2) jointly develop high quality multi-media programmes useful for multi-channel learning in all areas of knowledge and in particular in professional, technological and vocational areas,
3) promote CT use and development of '*Resource Centres*' and *Multi-media Learning Centres* in all parts of India for giving wider access to all learners,
4) establish partnership with industries and various organisations and institutions for offering training and retraining of personnel in and around the industry and institutions,
5) undertake programmes of transforming existing print knowledge into user-friendly electronic storage to be made accessible through nodes of networks,
6) undertake training and development programmes to develop expertise to use and maintain CTs,
7) undertake research and development to promote application of CT in education and development of educational technologies,
8) adopt policies and programmes for ensuring equity, access and success for all, particularly for the disadvantaged learners,
9) develop DEC and NAAC to function as Accrediting and Quality Assessment bodies for all programmes/courses put in the OPENET,
10) adopt and implement all measures initiated by DEC such as Credit Transfer, Grading Sys-

tem, Common Pool Programmes, Sharing of '*Resource Centres*' (RC, SC) etc for network development, and

11) take the support of the Commonwealth of Learning (COL) to ensure the quality of programmes for their recognition at the international level.

Since the technologies are changing rapidly, it will be rather difficult to have long-term programmes. But the strategies proposed above may help in making the open university system in India capable of facing the challenges of quantity, quality and equity and help in laying down the foundation for developing a knowledge based society. IGNOU is destined to play a vital role in all these changes and developments.

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Automation and Networking Experiences of IGM Library, University of Hyderabad

E. Rama Reddy*

Introduction

University of Hyderabad was established by an act of Parliament as Central University in the year 1974. The academic sessions started from 1975-76. The University Library started functioning from the year 1975. Over the period the Library has grown from strength to strength in acquiring reading materials and providing better services to the users. The Library has 68 staff members including 38 professionals working at various levels. Library is kept open for the users all through the year from 8.00 a.m. to 10.00 p.m. and upto 12.00 midnight for 4 weeks during semester examinations. During holidays the working hours are 10.00 a.m. to 5.00 p.m. Total collection of the reading materials at the end of February 1996 included 1,73,000 books, 60,000 back volumes of periodicals, 1780 thesis and dissertations. The Library subscribes to 780 periodicals covering various disciplines and also subscribes to several popular magazines and newspapers. An amount of Rs. 100 lakhs is being spent every year for subscription to periodicals, purchase of books and general maintenance of the Library.

Automation Efforts

The new Library building named after Smt. Indira Gandhi was opened by His Excellency Dr. Shankar Dayal Sharma, the then Vice-President of India during September, 1988. The Library started its automation activity in May 1989. By April 1995, the Library had completely converted its reading materials into machine readable form, which was available over the campus network for searching by the network users. This Library has the distinction of being the first University Library in India to have fully automated all its house keeping operations. The Library database consists of all the books, back volumes of periodicals, current journals and thesis/disseratations. The campus wide network users can search the database by author, title, classification number, subject, KWIC and Boolean to know whether a book/document is there in the Library or not, its status with reservation facility if the book is issued out. User can see the new arrivals of all the books and journal issues. LAN users can down load the required information or can take a printout by using their printers. Library has replaced its card catalogue with six Online Public Access terminals for users in the central lobby of the Library and two terminals near the stack areas. Library is using barcode technology at the circulation desk for issue and return transactions.

Over 28 Library staff members at various levels are trained to handle library application software and some in operating systems like DOS, OSF/1 (Digital UNIX), CD-NET (7 drive unit) pathworks, multimedia systems, handheld and flabed colour scanners etc.

Four Library staff members working in the computer section of the Library were involved in training the users for using OPAC terminals apart from network users in the Schools/Departments. The training programmes for the users were conducted continuously for over two months regularly apart from the instructions for searching placed at OPAC terminals for ready reference. The users are encouraged to contact the computer section staff or any other staff in case of any difficulty. The new/fresh students are trained at the time of their joining the University as part of Library orientation programme. All the Library users are provided with barcode ID-cards (Laminated) for Library transactions. Experiences of this Library in automating its library facilities are described in the following pages.

How We Began/The Transition Phase

The Indira Gandhi Memorial Library initiated

Librarian, IGM Library, University of Hyderabad, Hyderabad-500 046.

its library automation process in the year 1989 by procuring a PC-AT Intel 80286 with 4MB RAM, 80MB Hard-disk, MS-DOS and Xenix operating systems. Initially some programs were developed in dBase-III+ for producing catalogue cards on the continuous card stationery and monthly list of additions to the Library. In this process, the data for the new books became available in machine readable form from May 1989. The database was created for searching by author, title, subject and other access points. Simultaneously, to help journal subscriptions, a database for journals subscribed, giving addresses of publishers, vendors and other details was created. A programme was developed to print this data in a variety of useful formats for helping calculation of subscription estimates, reminders for missing issues, etc. After the success of the two modules described above, it was felt useful to locate the journals being subscribed by other libraries in Hyderabad. Thus, a Union List of Current Serials in Hyderabad was brought out which contained 5642 journals subscribed by 30 major libraries in Hyderabad. An effort was made to estimate the extent of duplication of journals among these libraries and reported.

Software Selection

To effectively utilize the data already available in machine readable form, after a thorough market search, during the year 1990 an integrated library application software (LIBSYS) developed by LIBSYS Corporation, New Delhi was procured under Xenix O.S. All the book records available in the machine readable form under dBaseIII+ were converted into the LIBSYS software package. Xenix is a multi-user operating system on which LIBSYS is available and it was suitable at that time for our requirements. LIBSYS : an integrated library application software provides facilities for acquisition, cataloguing, circulation, serials control and online public access catalogue.

Building the Database

Simultaneously, during the year 1990 to quickly make the services available to the users more effectively, the books data was also captured from the circulation records. The books being issued out at the circulation desk were considered as the books most sought. Thus, the database was built with the highly used and demanded books. The data about the new books in dBase, since 1989, was appended to create the Library database. Even though, the database contained about 35,000 records at that time, it was having the details of most of the relevant live collection. Using these methods within the limited disk space and time available, the Library could capture data pertaining to maximum books in its collection at that time.

Upgradation Process

During the year 1991, the 80286 system was upgraded to 80386 and the Hard-disk from 80MB to 200 MB. Two Diskless PCs were also added and placed at the Circulation Desk connected to the main system of the computer section. The Library was simultaneously operating its activities in manual and automated environments. In the initial stages the Library went through many problems mostly technical in nature but could solve successfully with frequent interactions with the software and hardware vendors. During the year 1993, the Library again upgraded its systems by acquiring a new PC 80486 system with three VT 220 terminals, printer and Unix operating system. The Library database created as on that date was transported to 80486 system under Unix operating system. This facilitated quick and efficient operations at different sections. The LIBSYS package was also upgraded on to the Unix Platform. The Library could conduct training programmes to its staff members to handle various modules of the library software package.

On to the Campus Network

During 1994 the Library was also hooked on to the Campus network through a thick ethernet. This facilitated the campus users to use the library catalogue over this network. The experience made us realise during that time that the Library required both online and batchmode features. The amount of data editing for catalogues and providing the classification numbers and book numbers on the books, issue slips and in the system itself involved lot of procedures and physical dislocation of books and data, etc.

Final Stage of Automation

During the year 1994, with the special one time grant from UGC under modernisation of library facilities, we could procure and install in the Library a minisystem DEC Alpha 2000 Model 300 AXP, 64 bit System with 6 GB Hard Disk, 16 80386 PCs, 4 multimedia systems, printers, 7 Drive CD-ROM net, Flatbed and handheld scanners, etc. The new System has OSF/1 (Unix) operating system and Pathworks software for CD-ROM net access. All these systems are connected to the earlier systems of the Library and also onto the Campus-wide Local Area Network. With all the initial problems and with constant upgradation of hardware and software and continuous training programmes to the Library staff members over the years, the Library could achieve introducing automation in all the sections of the Library. The Library could convert (retrospective conversion) all the book records i.e. 2,35,000 volumes into the database by February '95, which was made available for access also across the Campus-wide Local Area Network apart from within the Library. Serial holdings data is ready now and is available on the network. Computers are installed in all the sections of the Library for the Library staff to work. (Figure-I.)

Barcoding Technology

We would strengthen our circulation counters with barcode equipment for accuracy and speeding up of operations. All the books are being barcoded now. All the books added from April 1995 are simultaneously barcoded in the Acquisition/ Technical Sections. The pre-printed self adhesive barcode labels are made available at the circulation desk for pasting them in the books at return counter. During the semester/summer holidays we plan to shift this work to the stack area to cover all the other books on the racks.

Online Public Access Catalogue

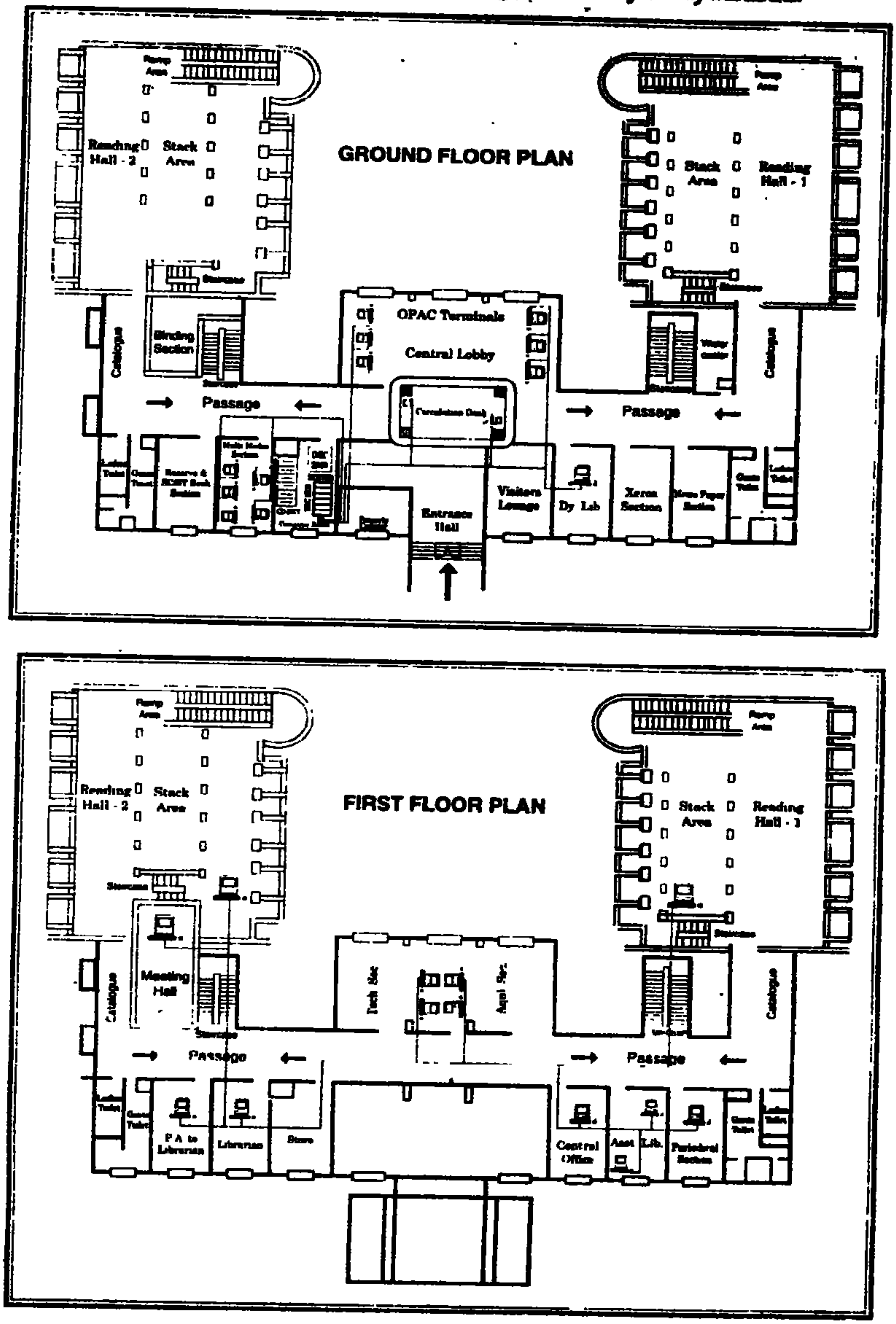
Six PCs are placed in the entrance lobby for Online Public Access Catalogue (OPAC) where users can search the Library database. Continuous training and guidance is provided to the users at the OPAC terminals apart from the instructions (search strategies) placed near all the OPAC terminals for reference. There is overwhelming response from the users. Training programmes were also conducted for Network users. We could achieve this level of automation with the generous one time special grants from UGC under modernisation programme, constant encouragement, support from our Vice-Chancellor and involvement of our enthusiastic Library staff members. Twenty eight Library staff members are trained as on date to handle various modules of LIBSYS package. We will achieve training all the professional staff by the end of this year.

CD-ROMS, Multimedia and Scanners

We have now latest hardware and software packages to handle various library related activities to provide improved library services to the users. The CD-ROM net with seven CD drives is on the Campus Network for searching CD-ROM databases from all the Schools/Departments. We will be subscribing to CD-ROM databases and information packages to strengthen and minimise the subscription costs over a period and also provide quick search services. The flatbed scanner will be operational for data conversion from print media to machine readable form to generate Selective Dissemination of Information (SDI) and Current Awareness Service (CAS) to support research activities. We are planning to provide CAS-Online to the users on the network. The four multimedia PCs with Sound Blaster cards, speakers, head phones will be used for audio-visual CD-ROM full text databases. It will be also used for voice recording into the system for lecture-demonstrations, etc.

We at the Library are fully equipped with necessary infrastructure, manpower to provide improved library services to the users. We have applied for I-NET connection, which should be available at any time now. This will facilitate our user community to access the databases at the INFLIBNET and other centres. University of Hyderabad is a nodal center for ERNET site and the Library has been using the E-Mail facility for sending messages and receiving them which is faster and efficient. With the installation of VSAT dish Antennae recently, in the University, the communication became reliable and efficient. The fax modem connected to the system in the Library is enabling us to send fax messages. We are now on the INTERNET and able to access some of the bibliographic databases like IIT, Kharagpur, NCSI, Bangalore.

Fig. I : Indira Gandhi Memorial Library, University of Hyderabad.



My Favourite Reading

Be Taught to be Studious

Mohammed Muzammil*

As it is said for teachers that an ordinary teacher tells, a good teacher explains but an excellent teacher inspires, so is also true with books : when a book raises your spirit and inspires you with noble and manly thoughts, seek no other test of its excellence.

If you are in a company of such people who love reading books not only because teaching and learning is their profession but they have set it as their career and therefore keep them up-to-date then you will also be inclined to acquire and read new books and enlarge the horizons of the stock of your knowledge and wisdom. It is more so when you are asked by somebody whom you keep in esteem to go through a certain book then it generates necessary compulsion and greater commitment and you feel that you must read the book. This is what I say be taught to be a reader.

If you are not advised to read a book — a particular book, then selecting a book yourself and start reading it is a great judgement where greatest care has to be taken because as it has rightly been said : we are liable to be corrupted by books as by companions and that there is no worse robber than a bad book.

Teachers and students are the most potential community for reading books. A teacher continues to remain a student by virtue of his continuous study of books. However, in learned societies, books are included in the shopping list of all families. I have seen in Great Britain that people in general purchase books as essential items of consumption. They allocate time for reading books. That's really great in that country. Teachers, leave alone students, in higher education in India, in general, have little time to read books. It is not in their priority list. Even if they are fond of books they often complain that they have the aptitude but cannot spare time for study. But once you take off from your routine drudgery, things are different and brighter.

Which books you have read in the last two years? is not easy to answer. Some I might have just "tasted", some others "swallowed" up and still some others "chewed and digested". And when you have to narrate precisely your experience, you have to be selective, and of course, can't avoid being subjective.

The year 1994-95 had been momentous in my life in various ways including the immense opportunity that I enjoyed for reading new books during my stay at the University of Oxford in UK as a visiting fellow. I will confine only to some of the books that I read there and one which I read on return.

The Child and the State in India

My attention was drawn to a number of books by colleagues and Senior Oxonian Scholars which I had never gone through earlier and about some of which I was even unaware altogether. The first exhortation to read a particular book I received was from Professor Robert H. Cassen, Professor of Development Economics at the University of Oxford who was also my research adviser at Queen Elizabeth House. Probably in our first meeting talking leisurely on a related theme, Professor Cassen asked: "Have you read M. Weiner's book *The Child and the State in India*". I said : "No". "Then read it. It's a very powerful book" he quipped. He sent me from his room just a little later, its full reference on a computerised sheet, for its search on OLIS (Oxford Library and Information System). The book was available in the International Development Centre Library itself of which I was already a member and borrowed it immediately.

The Child and the State in India is a great book indeed. The front cover (paperback edition of the book) carries a photograph, taken by the author himself of a young child — a bonded labour in South India, who is scantily clothed, virtually wrapped in rags with hopeful eyes but with a desperate self. Even if you do not open the book and just watch the cover photograph, it's good enough to uncover the real state of children in general gripped

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**Department of Economics, University of Lucknow. A Career - Award recipient for Young Social Scientist of the University Grants Commission, New Delhi, Dr Muzammil has been a Visiting Fellow at the University of Oxford, U.K. during 1994-95.*

in poverty and deprivation in the countryside and in the hutments of the big cities in India.

The plight of educational deprivation of children and their having been forced to work at a tender age depicted in this book is so vivid and pathetic that one can hardly find anywhere else.

M. Weiner — the author of this book (an American) has extensively written on the society, economy and politics of India. He has compiled this book not only by using official publications and enquiry reports but he also took all pains to contact the bureaucrats and administrators in person who were concerned with policy making and its implementation for child development in India and interviewed them to know their views as to why the condition of children in India was so deplorable. Why is it that the policy documents often depict a rosy picture but the actual situation obtained is awful and shocking indeed. This book provides a realistic answer to this question.

The first hand narrations of the personal observations of the author are revealing and absorbing. The personal accounts are very fascinating and constitute the most valuable part of this book.

Wild Swans

It is not a fiction but a true narration of the society, politics and economy of the People's Republic of China.

Professor Gopal Krishna of Wolfson College, Oxford was sitting in my room, 16, QEH in a very mild afternoon (10°C) of January 1995. We were leisurely talking about social and economic development in developing countries. China came up in our discussion and as soon as I mentioned IMF's country study on China, Professor Krishna quipped: "Have you read *Wild Swans* ?" "No, I never go for fiction" I replied. But without losing his seriousness, Professor Krishna continued : "It's not a fiction. Its a first hand account of the society and economy of China." The same evening I picked it up — a beautiful book (Flamingo, paperback for £ 7.99 U.K. Price) from Dillon's at the City Centre, Oxford.

Wild Swans is written by a Chinese lady — Jung Chang born 1952 in Sichuan Province of China. She worked in various capacities before joining as Assistant lecturer in English linguistics at Sichuan University. She left China for Britain in 1978 and became the first person from the People's Republic of China to receive a doctorate degree from a British (York) University.

The front cover of the book gives the full title : *Wild Swans — Three Daughters of China* (including the author, with their PP sized photograph). This book is a winner of 1992 NCR Book Award and 1993 British Book of the Year Award. Excerpts from as many as sixteen reviews of this, all highly acclaiming it, are printed therein.

This book is a lively depiction of the Chinese society during the Communist Regime. It is a memoir of the author and a popular history. The author has recorded very honestly all pleasures and sufferings of her own life and that of the people of China in general. This book arouses all emotions — pity and terror and a complex mixture of admiration, despair and delight.

Personal accounts of the author in *Wild Swans*, also provide the general information (which has otherwise been difficult to know from outside China) about the contemporary Chinese economy and society. For instance :

"A large chunk of my father's salary went for buying books, particularly large volumes of classical books one set of which could cost two months salary. Sometimes my mother grumbled slightly: other people in this position dropped hints to the publishing houses and got their copies free, 'for work purposes'. My father insisted on paying for every thing.

Sterilisation, abortion and even contraception were difficult. The Communists had started promoting family planning in 1954 and my mother was the incharge of the programme in her district. She was then in an advanced stage of pregnancy with Xiao-hei, and often started her meetings with a good humoured self criticism. But Mao turned against birth control. He wanted a big, powerful China. He said that if the Americans dropped atomic bombs on China, the Chinese would 'just go on reproducing' and reconstitute their numbers at great speed. He also shared the traditional Chinese peasants' attitude toward children : the more hands the better. In 1957, he personally named a Peking University Professor who had advocated birth control as rightist. After that, family planning was seldom mentioned" (p. 314)

The Death of Economics

This book is about the failure of economic theory and policy in modern context.

Samuelson, nobel prize winner in Economics (1970), wrote in his famous textbook — *Economics : With pardonable exaggeration, 1776* (publication year of the Wealth of Nations of Adam Smith — the father of Economics), could be said to be the birth year of economics, but like a baby, economics was taking shape even before it was born. Thus viewed, economics is less than two and a quarter century old.

How is it that Economics, born in 1776 has been declared dead in 1994 ! in the prime of its youth as this subject has been expanding and diversifying very fast over the last few decades. I was fascinated to see hundreds of copies just unpacked of this book in a bookshop in England. This is what prompted me to buy a copy of this 230 page book in paperback for £ 6.99 (U.K. Price). Later I discovered it was'nt worth it.

The Death of Economics is written by Paul Ormerod and published by Faber and Faber, London, 1994. The author is a professional economist who is reported to have straddled the academic and the business worlds and done well out of it. In this book he attempts to expose the 'debunk economics'.

As expected from the title of this book, it deals with the failure of economic theory and policy in tackling the modern economic problems particularly those obtained in the western world. Paul Ormerod writes :

"Contemporary orthodox economics is isolated. It is isolated from its roots in the late eighteenth and early nineteenth centuries, when economists were by no means afraid to theorise, but did so purely to illustrate and understand the great practical issues of the day. Its method of analysis is isolated from the wider context of society, in which the economy operates, and which Adam Smith believed to be of great importance. And its methodology, despite the pretentions of many of its practitioners, is isolated from that of the physical sciences, to whose status it nonetheless aspires." (p. 21)

Discontentment even among more renowned economists about the usefulness and efficacy of economic theory and policy measures is not new. On this point economics has been criticised equally by professional critics and fellow economists. Barbara Wootton's famous remark: 'whenever six economists are gathered, there are seven opinions' is oft quoted in school textbooks of economics in India. Samuelson also admits : "In recent times economists have developed a reputation for being a querulous lot who can't agree on any thing. One pundit complained, "If you laid all economists end to end, they still wo'nt reach a conclusion." A randomly selected radio or television show will often find two economists disputing about almost any thing. Why? The media are to blame, in part, because disagreement makes good copy. Sage accord is a script for turning off viewers. If you saw a row of nodding economists, you'd probably nod off yourself."

But a careful survey of the views of the economists reveals that the disagreements among economists are not as great as is popularly supposed.

Paul Ormerod maintains in his *The Death of Economics* that the orthodoxy of Economics, trapped in an idealised, mechanistic view of the world, is powerless to assist ameliorate the situation of the economic ills prevailing in western Europe, America, Japan or elsewhere on the globe.

It is difficult to find a reflective economist who is happy with matters as they are. Paul Ormerod has gone one step further. In his book, he brings together the simmering discontents of economists over the past quarter of a century, and launches a comprehensive attack.

Women's Education in Developing Countries
Barriers, Benefits and Policies

This book discusses the underinvestment in girls' education in developing countries.

My attention was drawn to this book by an Indian scholar and friend at Oxford, Dr Geeta Kingdon, Institute of Economics and Statistics, University of Oxford. She herself holds a doctorate degree from Oxford in a related area and has been a Robert Mc Namara fellow.

Girls' education has been on the top of agenda in many developing countries in these years. This book edited by Elizabeth M King and M. Anne Hill (hard bound) is relatively a big volume with a very fine get up and paper published by Johns Hopkins University Press for the World Bank in 1993. It is priced at $ 22.95. World Bank Publications too are gradually becoming very expensive.

I enjoyed this edited book very much. It is very informative, interestingly presented and analytical. The overview chapters of the editors are on the determinants of female educational levels and the gender gap, and on returns to women's education. There are five regional chapters based on the experience from (i) Sub-Saharan Africa, (ii) the Middle East and North Africa, (iii) Latin America and the Caribbeans, (iv) South Asia, and (v) East Asia.

I was very happy to find that the chapter on East

Asia was written by Professor Jandhyala B.G. Tilak, Head, Educational Finance Unit, NIEPA at New Delhi. He is closely known to me for his academic contributions. Therefore, first of all, I read that chapter and was overwhelmed once again by his singular style of presentation.

If the author is closely known to you, then while reading the book, you immediately get into direct communication with the author in totality and not just the content of the book in question.

The initial overview by King and Hill underlines the importance of the level of female education and gender gap in education for economic and social progress. Their findings are based on an analysis of data from 152 countries over the period 1960-85. As is commonly believed in India also, I was happy to find the proof in this book also that gains in social and economic progress associated with female schooling are systematically greater when there is greater equality between the sexes in schooling. No body will disagree with the authors' conclusion that failure to invest adequately in educating women can reduce the potential benefits of educating men.

The barriers to women's education in all developing countries in general and in the Middle East and South Asia in particular are indeed shocking. I found the discussion of educating women in India, included in the chapter on South Asia very realistic which could emanate only from a very keen observation.

The final chapter which reviews various interventions intended to rectify the balance between girls and boys in schooling, both through lowering the cost of girl's schooling and by raising the benefits, includes innovative approaches which are very interesting.

Evaluation reports of various schemes included in this book are revealing and interesting. In his foreword to the book, the then World Bank's Chief Economist Lawrence Summers states : "I have become convinced that once all the benefits are recognised, investment in the education of girls may well be the highest return investment available in the developing world."

To conclude, I must say that reading a new and good book is a thrilling experience. But, in view of thousands of books being turned out every day by publishers world over, books which are to be read must be chosen with great care. Elderly advice on this point will be immensely helpful to new and enthusiastic readers.

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Integration of Culture with Technology

Prospects for 21st Century

Eminent historian, Dr. B. Sheik Ali, former Vice-Chancellor, University of Goa, delivered the Convocation Address at the annual convocation of the Kannada University, Hampi. He said, "Universities are the organs of civilisation, the intellectual pioneers of culture, and the sanctuaries of the inner life of the nation...... They act as the conscience of the community and the custodians of the rich heritage of a people. In short, they are supposed to act as an agent of great change in the development of individual personality, in the enhancement of knowledge and culture, in the quest for new humanism and peace and in the total integration of culture and technology." Excerpts

Man plans for the future. When the 21st Century is fast approaching, a question could as well be asked what should we do to make the future of our children very bright. My answer is that we should integrate culture with technology. I shall elaborate this point by raising four issues - what is culture and what is technology; what is the role of our University system in generating these two forces; what is the position of this University in this respect; and what is the prospect of mankind in the 21st century?

I

What is culture? Culture is man's creativity towards perfectability in all spheres of life through social and intellectual processes. There is an urge in man to evolve things beautiful, thoughts beautiful and words beautiful to satisfy his finer taste. Culture is the creative vision towards those nobler aims which man attempts to objectify in order to soar higher into spheres of peace and joy. He sees the grandeur of God's work in nature, and he imitates in his own humble way to put it on the canvas which becomes a painting. He puts such colour into it, and uses such skill that it becomes a replica of the wonder we see in nature — maybe the break up of the dawn, or the myriad crimson colour of the setting sun, or the captivating smile of an innocent child, or the bewitching mood of a ravishing beauty, or the serene face of the noble lady on which he puts the lable of "Mona Lisa". Man's flight into still higher region of the cosmos may excite him to conceive the Creator in his own imagination and to carve in stone those images which he calls gods and goddesses thus resulting in beautiful sculpture. Again he may put such questions as why and how do I live, where have I come from, where do I go, what is the meaning of life and death, peace and war, power and authority, love and sex, what is right and what is wrong? When he answers these questions, he enters into the realm of high philosophy, which becomes the core of culture. In short culture is that complex whole which includes knowledge, belief, art, morals, customs and any other capabilities man has acquired as a member of the society.

The main ingredients of culture are truth, beauty, justice and love. Truth is the reflection of reality unobstructed by any kind of prejudice. According to Gandhiji truth is God, and God is truth. According to ancient Indian sages, the will to exist is "*Sat*" and "*Sat*" is the attribute of Divinity. Truth is light, falsehood is darkness; truth is life, falsehood is destruction; truth is science, falsehood is fiction; truth is knowledge, falsehood is ignorance; truth is existence, falsehood is illusion. Therefore, culture demands truth.

Secondly, what is beauty? Beauty is perfection in everything. It is the right thing, in the right place, in the right proportion. Things in nature are beautiful. Rose is beautiful, as it is perfect in colour, in its fragrance, in its delicacy, in its softness, in its sweetness and in its freshness. Whatever God has made is beautiful and man's efforts to imitate God's beauty in creativity result in culture.

Thirdly, what is justice? Justice is the harmony between reason and conscience. Justice is the compromise for the necessities of social life. Justice is the conciliation of two opposites to unity. Justice is the settlement of the unending feuds between right and wrong. Justice is the base to all moral virtues, and hence justice is the foundation on which to build mansion of a great culture.

Fourthly, what is love? Love is the hunger of the human soul for Divine Beauty. Love is the moving spirit of all creativity. Love is the source of all life. Love is the pulsating energy of the whole world. Love is not a passing sentiment or a feeble emotion, but it is an attitude of life, involving the mind, feeling and will, which are strong, deep and enduring. Where there is no love, there is no life, no light and no culture.

Having discussed what is culture, let me say what is technology. It is the transformation of inner potential into concrete reality. It is the objectification of an abstract concept into something useful. It is bringing up to surface the latent energy to serve a definite purpose. Technology is the human skill to convert innate energy into kinetic energy to make man's life more comfortable. The modern age is the marvel of technology when man has landed on the moon, has scanned the sky, has swept the floor of the oceans, has split the atom, and has revived a collapsing heart. The greatest technologist is God who makes the cow graze green grass today and give white milk tomorrow. A German philosopher, Hiedegaar, says that technology came first and science next. Human heart was pumping blood to different parts of the body ever since man was born, but its mechanism was well understood only in modern times. It is technology that helps culture grow.

The wonders of science and technology have affected our lives in all spheres of activity, sometimes for good, and at other times, not so good. It has perfected the war machine. The little toy that was dropped over Hiroshima and Nagasaki generated the heat of 300,000 degrees centigrade killing lakhs of people in a few seconds. Compared with this toy bomb of 1945 what we now possess is a sophisticated kit that can blow off a dozen spheres of our mother earth's size.

We were hoping science and technology would make us happier and better. In reality it has helped only a small minority of the elite. It has brought in its train moral degradation. People are much less humane today than they were even forty or fifty years ago. Technology has created cleavages between man and man, between the employer and the employee, between the consumer and the producer, and between the urban and the rural folks, who suffer in cities like Bombay, Madras and Calcutta in slums of unspeakable degradation. Concentration of wealth and resources only in the hands of a few has caused great concern to world peace and order. Man has now become money-mad, power-mad, pleasure-mad and status-mad, because moral values associated with a finer culture are not integrated with technology.

II

The right type of university system is supposed to correct this imbalance. Therefore, my second question is how are our universities helpful in integrating culture with technology? What a University stands for would answer this query. The objectives of a University are not only the acquisition, preservation, dissemination and extension of knowledge, but also to promote scientific temper and rational outlook; to preserve cultural tradition and enrich languages to inculcate basic human values and develop work-ethics; to train living together and working together; to cultivate the arts and broaden the humanities, and thus enrich the quality of life. The main job of a University is to train the mind, body and soul. Universities are the organs of civilisation, the intellectual pioneers of culture, and the sanctuaries of the inner life of the nation. They hold the key to the welfare and progress of the people. They are the agents of social change. They stand for humanism, tolerance and reason. Their job is an adventure in ideas, search for truth and a journey towards higher objectives of life. They act as the conscience of the community and the custodians of the rich heritage of people. In short, they are supposed to act as an agent of great change in the development of individual personality, in the promotion of new attitudes and values, in the enhancement of knowledge and culture, in the quest for new humanism and peace and in the total integration of culture and technology.

A question could be asked whether these objectives are being fulfilled in our university system. With great regret we have to say they are not, the reason being the fateful alienation of our teachers and students from their cultural moorings and roots. They are being buried too much in theoretical and abstract concepts. Our education is neither related to the realities of life nor is based on the cultural values of the land. India that was known for the gentleness of her mature mind and a unifying and pacifying love for all beings is fast losing her moorings. The system of values such as humanism, liberalism, secularism and universalism which had been so assiduously built over the ages are under the serious threat of destruction.

III

It is in this context that the need for a new type of university has arisen. This University at Hampi, we are hopeful, will respond to the challenges of the time. It is certainly a University with a difference. It is based on the cultural moorings of the region. Karnataka has contributed much to the mainstream of Indian culture in the realm of art, architecture, music, philosophy, religion, literature and so on. Every thing good and great in India has gone into the construction of temples, the hub of all cultural, social political and economic activities, and if you talk of temples, where else you could find more beautiful temples than those of Belur, Halebid and Somanatha Pura? Is it not a fact that lovers of beauty flock from the four corners of the world to appreciate and adore these marvels of art? Where else would you find the tallest statue or the highest Gumbaj? Where else Ramanuja could go except to Karnataka when he was presecuted in Tamil Nadu? Where else would you spot those rock-cut temples of unique skill except in Badami, Aihole and Pattadkal? To what region did Shankaracharya, Madhavacharya and Sri Basaveswara belong? In what way do the writings of Ranna, Janna and Ponna form a less world class literature? Who shattered the invincibility of the English except Haidar and Tipu? Whose name figures high in modernizing Mysore except of Visweswariah or in beautification of the State except of Mirza? The cultural and creative tasks of the Kannadigas certainly deserve to be written in bold relief, and that job is the main thrust of this University.

In the life of either an individual or an institution the initial years are very crucial. How a child is brought up during the first two-three years when all its faculties are developing would affect its entire later life; so is the case with a University. We are indeed very happy that this University is under very good care, and is shaping itself in a manner to realise all its cherished goals. This is a unique University in its own right, firstly because it is not the one to load the students with just information, facts and figures, but the one to ignite their reflective chambers to appreciate, absorb and understand wisdom and knowledge. Secondly, it is the one with a set and well-defined goal to preserve and promote, extend and examine the horizon of Kannada language and literature, a sacred task which would make every Kannadiga feel happy and proud. Kannada, which is one of the finest pearls in the treasures of Indian languages, has such lustre, value and grandeur in its structure that it could compete with any world-class language in beauty, in profundity, in sweetness and in richness. Its kit is so full of the treasures of every sort of literature, whether poetry, prose, drama, novel, fiction, history, religion, philosophy or art that it certainly forms the rich heritage of mankind. This University is rightly conceived to trace and find every gem hidden any where either on stone, palmleaf, coppper plates or paper, and to interpret, explain, edit and publish such material.

Thirdly, this University has taken upon itself the task of a new orientation in our educational pattern, namely, to base the learning process on the bed-rock of our culture. It is Culture that is the sign-post or symbol of this University, where every form of art whether painting, sculpture, architecture, theatre or music, would attract its attention to do justice to our fathers and fore fathers. "Truth is beauty, beauty is truth; that is all you know, and you need to know" says Keats, and this is very much true of this University. Truth falling from man's intellect either in the form of philosophy, ethics, religion, morality or manners and beauty evolved by man's hand either through pen, brush or chisel, would form the main agenda of this University's research and activities. It is Kannada, Kannada and Kannada that breathes through the mind, heart and soul of all those who work here.

I have to add one more word about this University. It is singularly fortunate in finding the right captain to launch the ship on the high seas of knowledge to find the grains of gold deposited by the streams of history on the sands of time. It is the leader who is very crucial in any venture, more so in the academic sphere. The addition of one good leader is like the mathematics of Napoleon who upset all traditional calculations. He asked his soldiers how many it would make if one is added to 50,000. They said, 50,001. He said, "you are wrong; that would make, 1,50,000, for you have to put that *one* to the left of 50,000". That *one* was Napoleon in the French army, and this one, is Chandrasekhar Kambar in Kannada University. His vision, dynamism, humanity, creativity and inner strength have yielded such a good crop of useful work during the brief period of only five years that his achievements run into pages and pages. I do not wish to list them here; they are there for any one to see. I would merely say that he is not only a poet of mind, but also a statesman of ideas. He has already carved a niche in the heart of every Kannadiga, and his name would surely become a legend in years to come. I wish him, and wish this University all success.

IV

My last point is what is the prospect for mankind in the 21st century? The prospects are bright if only we remember the broad principles operative in the universe. The first is, there is no security of life anywhere; there is only an opportunity. Everything is in a flux everywhere. There is a change at all times and in all places. Those who seize the opportunity of time will win the battle of life. This world is bad, not because of bad people, but because of the silence of good people, who do not seize the opportunity to rectify matters. Bad are few, but good are many and yet they hesitate.

Secondly, man should realise the historical forces and turn them to right use. Our historical forces of 5000 years point towards humanism, liberalism, truth, beauty and wisdom. This is the foundation on which to build our future mansion. We have to realise good is good, bad is bad, and the two are not convertible. If a child finds it difficult to survive on milk, would it survive on poison? India is a great country of variety, a tapestry, a mosaic and a bouquet, where flowers of all hue and fragrance are tied by the twine of tolerance. Therefore, we should not interpret *Hindutva* in a narrow sense. We have to concede there is unity in diversity, and identity in multiplicity, and that all things are created by the fusion of the opposite. A liberal trend is essential for our survival in the 21st century.

Thirdly, every Indian has to imitate the quality of a duck which is so calm on the surface but peddles like hell underneath. There is no escape from hard work, and work ethics. Life leaps like a geyser if we cut through the rock of inertia. Work is worship, and work ethics is the key to success.

Fourthly, we have to remember that everything in the cosmic order is moved by an urge to become greater than what it is, a seed becomes a tree and a child, a man. We have to realise the innate potentialities in man, who has utilised only a fraction of them to this day. 960 millions could do wonders on this earth in the 21st century.

Fifthly, everything is guided in a certain direction from within; an egg of a hen is internally designed to be a chick and not a duck. We are designed to be humans to love and understand one another. Nothing in this world exists for its own sake. Every thing is for everything else. When man lives for others, this would become a heaven.

Sixthly, values would depend upon our perspective. A knife is a life-saving device in the hands of a surgeon, but it is a life-taking instrument in the hands of a butcher. Gold is currency to a king for circulation, but it is a proud possession of a woman to hoard. *Gita* is a sacred scripture to a saint, but it is a commodity to a merchant for sale. Knowledge was wisdom to Socrates, but a bomb in the hands of Hitler. Our Universities in the 21st century should propagate values in correct perspective.

Seventhly, when desires, emotions and ideas are harmonised they result in cosmos; when they are in disharmony they result in chaos; Today we have religion but no faith; speed but no direction; passion but no compassion; overproduction, but no equitable distribution; goods but no God. We have to rectify this imbalance in the 21st century.

Lastly, we have to remember that beyond the flight of time, beyond the flight of space and beyond the realm of death, there is a celestial sphere of peace and joy but admission to that sphere is restricted *only to those, only to those* who carry the casket of soul in its pristine purity. That is the destiny of man. It is this Destiny which should be our aim in the 21st century.

IGNOU's Teleconvocation

Though the Supreme Court had pronounced that the right to education was a fundamental right, the State could not fulfil its obligation in enforcing it, said Mr. Ranganath Misra, Chairman, National Human Rights Commission. Article 45 (in Part-IV) of the Constitution required the State, within 10 years from the commencement of the Constitution, to provide free and compulsory education for all children till the age of 14 years. Still, even after five decades, it remained a dream. He was delivering the convocation address at the seventh convocation of the Indira Gandhi National Open University (IGNOU) in New Delhi recently, which was held, for the first time, as a teleconvocation connecting various centres in the country. He said compulsory education would cover about 200 million children creating an increased demand for higher education. This meant that the formal educational system would be grossly inadequate to meet the demand as it took only six per cent of candidates eligible for higher education, Mr. Misra said stressing the importance of the open university concept.

Advancement of the satellite communication technology had facilitated the reach of the educational programmes of open universities to distant centres thereby providing access to a wide range of subjects. The country's need for the spread of education with appropriately maintained quality could be best served by such universities, he said.

He urged people to shed "smallness in thinking" and to develop a national perception. Full attention should be on pushing India to the forefront.

In his address at the convocation held in IIT, Madras, Prof. R. Natarajan, Director, IIT, said a healthy partnership between the traditional and distance modes of education was necessary to meet the challenges of the next century. While the former had traditional advantages, the latter was innovative.

The attain global and national competitiveness, industry and business needed a workforce with the latest knowledge and skill. Distance education offered a unique possibility to the adult learners in the workforce to meet this challenge. Industry and business, which would benefit from this enterprise, must fulfil their responsibilities, academically and financially. "The marriage of distance education and continuing engineering education has many benefits to confer on both systems," he said.

On professional courses, he said there was a proliferation of self-financing colleges without any check on quality. The bottom-line of the educational system should be quality, cost, competitiveness and relevance. He lauded the efforts and record of IGNOU in providing distance education on a variety of subjects.

Prof. R.G. Takwale, Vice Chancellor, IGNOU, in his report, said during 1995-96, the enrolment of students had increased from 92,000 to 1,30,000. The total number of students on roll had crossed three lakhs.

Besides Delhi and Madras, simultaneous convocation functions were held at Ahmedabad, Bhopal, Calcutta and Hyderabad. The satellite connectivity from Delhi to the other centres was made possible through INSAT-IC on which the IGNOU had a transponder.

In all, 11,400 students were awarded diplomas and degrees at the convocation. Of these, 1,274 students were present in Delhi, 187 in Ahmedabad, 100 in Bhopal, 341 in Calcutta, 155 in Hyderabad and 383 in Madras.

The new system has been started with a view to award degrees and diplomas to students without their having to travel long distances to collect them. IGNOU authorities hope this will not only make learning easier, but also popularise distant education.

Ambedkar's Policy on Education

The Babasaheb Bhimrao Ambedkar University, Lucknow recently organised a seminar on "Dr. Ambedkar's Policy on Education" to commemorate the 105th Jayanti of Dr. B.R. Ambedkar. The seminar was inaugurated by Shri Moti Lal Vora, former Governor of Uttar Pradesh.

Dr. D.R. Gadekar, Vice-Chancellor, in his introductory re-marks said that every effort would be made to attain the objectives that are laid down in the Act of the University, specially in the areas for the development of socially and economically depressed sections of society and to provide opportunities for higher education, welfare of people in general and scheduled castes and scheduled tribes in particular. He quoted the message of Dr. Ambedkar's speech "Educate, Unite & Agitate" which was relevant to all citizens of our country even today. He said Dr. Ambedkar was a towering personality. Dr. Ambedkar's interests ranged from economics, social sciences, law to social welfare and allied disciplines. Prof. Gadekar said keeping this in mind, an effort would be made to establish a School of Ambedkar Studies in which facilities for teaching and research in above mentioned disciplines would be available. He further elaborated that other areas would be emerging areas in science and technology.

Mr. Vora in his inaugural address, said that Dr. Ambedkar struggled for whole of his life for national integration, human freedom, communal harmony, upliftment of society, welfare of socially depressed classes and also for political, social and economic justice. Dr. Ambedkar raised his voice against the bad traditions of untouchability, caste, existing social system and exploitation of the Dalits which were prevalent in the society. Dr. Ambedkar established a number of educational institutions for imparting education to all, he added.

Prof. M.S. Sodha, ex-VC of Lucknow University and Shri R.D. Sonkar, former Chief Administrator of University Project also expressed their views on Dr. Ambedkar's Policy on Education, whereas, Prof. Roop Rekha Verma, Head of Philosophy Department, expressed her ideas regarding Dr. Ambedkar's Policy on Education with particular reference to women's education.

On this auspicious day, Bodhi Vraksha specially brought from Sravasti, was also planted by Shri Vora behind the statue of Dr. Ambedkar.

Saving the Anti-Cancer Herb

The Biotechnology Centre of Himachal Pradesh Krishi Vishwavidyalaya is undertaking a research on the potential of cell culture techniques for in vitro production of podophyllotoxin, an important medicinal herb being used in the treatment of cancer which grows wild in the forests of Himalayan ranges, especially in Himachal Pradesh and Jammu and Kashmir. The Department of Biotechnology and the Union Ministry of Science and Technology are reported to have sanctioned a grant of Rs 21 lakh for the research.

Podophyllotoxin, extracted from the rhizomes and roots of P. Hexandrum, is used as a starting material in the synthesis of anticancer drugs etoposide and teniposide. These drugs have been successfully used for treating small lung cell cancer, testicular cancer, neuroblastoma, depotoma, encephalopathy and other tumours.

The research project being undertaken by the Biotechnology Centre of the university, will focus mainly on collecting seeds and rhizomes of P. Hexandrum from its natural habitat, identifying collections with high podophyllotoxin content, standardising methods for its micropropogation and exploring commercial possibility of podophyllotoxin production.

The tissue-culture-derived plants of podophyllum can not only help in reducing the period of five to seven years required for harvesting rhizome roots by atleast one to two years but can also make possible its cultivation in selected high altitude areas of Himachal Pradesh and Jammu and Kashmir or for its reintroduction into natural habitats. Moreover, if an efficient tissue culture technique is standardised for in vitro production and extraction of podophyllotoxin, it can go a long way in relieving the pressure on medicinal plants which are facing extinction because of the reckless gathering of their rhizomes and roots from its natural habitat. This is generally done in a season when seeds have not fully matured,thus hampering their natural regeneration.

Podophyllotoxin has also been found to possess insecticidal and phytotoxic properties. Being a rich source of podophyllotoxin (4.3 per cent) compared to other species like P. Peltatum (0.1-0.3) per cent, P. Hexandrum has become one of the most important medicinal herbs.

This perennial herb is propogated by both young rhizomes and seeds. However, seedlings produced from seeds required five to seven years for the rhizomes to attain optimum size for commercial exploitation. Since podophyllotoxin is the starting material for the synthesis of anticancer drugs, etoposide and teniposide, rhizomes and roots of P. Hexandrum are in great demand, resulting in the reckless collection of roots and rhizomes from the natural habitat, posing the way to its extinction.

Career News on Internet

The Confederation of Indian Industry (CII) is reported to have launched a new service on Internet providing information on career prospects to young Indian professionals educated in the US.

The project, "Indian students professional integration and re-entry" (Inspire), available on 'India World' on Internet, is jointly sponsored by CII and the United States Educational Foundation in India (USEFI).

"Inspire" will provide information related to career planning and return-home for young professionals educated in the States at a crucial stage of their lives.

The project will also make it possible for Indian industry to recruit highly skilled Indian professionals with an International perspective.

Eight companies - Ashok Leyland, Citicorp, Eicher Goodearth, Godrej Soaps, Mahindra and Mahindra, Sona Steering, Widia and Wipro - have evinced interest in international recruitment and their profiles are being hosted on "Inspire".

Neither CII nor USEFI would undertake direct recruitment efforts or perform any other function of an employment clearing house. Both the organisations will play a facilitative role in building awareness and in identifying challenging employment opportunities in India.

IDEA Annual Conference 1996

The 4th annual conference of the Indian Distance Education Association (IDEA) will be held on 22-24 November, 1996 at Hyderabad. The conference will focus on various practical issues involved in planning, programming and developing *student support services* (SSS). While the intellectual participation is expected to be challenging, the focus will be on evolving strategic and improved delivery systems of learner-centred resources.

The main objectives of the Conference are : to identify the needs of various categories of learners from "induction to completion stage" of the study and locate where SSS comes in to address these needs; to identify the general as well specific issues relating to the provision for SSS of adult learners. Also to analyse various theoretical models and their applications in different Open Learning (OL) and Distance Education (DE) Institutions; to examine the existing policies and procedures, management of specialised structures meant for extending SSS, methodologies adopted and review their scope, coverage and anticipated outcomes; to assess the gaps of what is thought of, what is being done, what is achieved, what remains to be done and offer possible solutions to the emerging problems; to determine the criteria for developing SSS, identify the priorities within the scope of limited resources available and assess the quality of service from different dimensions; and to identify the roles of Regional/State, National and International Organisations concerned in assisting the Institutions in designing, developing and improving SSS.

The topics proposed to be discussed include : SSS-I: Learning Environment — Learner's profiles, background and perceptions; Learner's needs, demands, expectations and choices about mode and methodologies of SSS; Special needs of women and disadvantaged groups, vocational, technical, science and professional course students, inservice trainees etc.; Learner's induction processes and pre-entry support services; timing and spacing of services; Student access to information and services; student records; study processes, study skills including learner autonomy and progress and anticipated outcomes of interventions through SSS; Learner's general problems including dropout from the system and how SSS could help retain them; student correspondence and grievance redressal. SSS-II : Institutional — Organization and Management of Study Centres - Regional Centres, HQs, Counselling and Guidance; Specialised staff development; Learner — Facilitator Relations, Peer Interaction and Support; Organising SSS with minimal resources while using decentralised models etc., Teaching - learning systems — Multi-Media communication, processes and issues — Student Evaluation and feedback system; Equity of access and Quality of services. SSS-III : Post-completion services; review of evaluation and research studies to identify issues, develop methodologies and suggest alternative perspectives; Bridging the gaps — what is to be done — Linkages; Identification of roles of various national and international organizations towards improving the system.

Further details may be obtained for Prof. K. Murali Manohar, Secretary General IDEA, C/o Department of Public Administration, Dr. B.R. Ambedkar Open University, Road No. 46, Jubilee Hills, Hyderabad-500 033.

Economics of Agro Chemicals

An international Symposium on "Economics of Agro-Chemicals" was recently held at the University of Wageningen, the Netherlands. Professor L.N. Dahiya, Pro Vice-Chancellor of Maharshi Dayanand University, Rohtak presented a paper on "Agro-Chemicals, Food and Environmental Issues in India - an Overview" at the Symposium which was attended by over 100 experts from all over the world.

During his visit Dr. Dahiya visited several Universities/institutes at Amsterdam and the Hague, the Dutch Plant Protection Services, Environmental Ditches of the Sinderhoeve and Experimental Dairy Farming.

Teleconferencing by IGNOU

The Indira Gandhi National Open University (IGNOU) has started a new teleconferencing system. The students can now ask questions directly to the experts while viewing the programme. The teaching end has been set up at IGNOU's main campus, while the receiving ends have been set up in 16 regional centres. These include Ahmedabad, Bangalore, Bhopal Calcutta, Cochin, Hyderabad, Jaipur, Lucknow, Delhi, Patna, Shillong and Shimla.

Academicos de Honor for Prof Kaula

Prof P N Kaula, President, Regional Office, World Council for Professional Education and President, Indian Library Association has been awarded "Academicos de Honor" by "Muy Ilustre Academia Mundial de Ciencias Technologicasy Formacion Professional" at Valencia, Spain for his outstanding contribution to the "Promotion of Education and Information in the Third World". Prof Kaula was given the award at the investiture ceremony held at Valencia, Spain. He had earlier served as Expert Counsellor on "Knowledge Organization and Expert System" at the invitation of the Government of Spain and attached to the Universidad Autonoma de Madrid.

Prof. Khosla on IUFRO Executive Board

Prof. P K Khosla, Director Extension Education, Dr YS Parmar University of Horticulture and Forestry, Solan, has been nominated to the Executive Board of International Union of Forestry Research & Organizations (IUFRO) for the five years term by the IUFRO President Dr Jeff Burley. This distinction has been bestowed upon Prof. Khosla for his outstanding contribution in the field of forestry teaching and research in the Indian sub-continent.

The IUFRO executive board, comprising twenty members, organizes the global forestry activities for 15,000 scientific members belonging to 700 research institutes. It offers a unique platform for the cross fertilization of ideas and promotion of forestry at the global level. This organization caters to the forestry needs through 300 odd working groups in different disciplines of forestry which meet at different places in the world.

Prof. Khosla who recently participated in XXXIV IUFRO Executive Board meeting held in Vienna, Austria and Sporon, Hungry said that after becoming the member of Executive Board of IUFRO he would be in a better position to present the Indian Scenario before this global body, that

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without the participation of people for meeting their aspirations the forestry research could not make any impact in the region. He hoped that the Indian sub-continent would play a big role in the exchange of ideas and dissemination of research findings at the International level to maintain the global ecosystem.

News from Agricultural Universities

Energy Park at CCSHAU

In a move to popularize the use of non-conventional energy among masses, an energy park is proposed to be established shortly at Chaudhary Charan Singh Haryana Agricultural University (CCSHAU). This was revealed by Dr. S. Arya, Vice-Chancellor. He said that the aim was to enlighten the people about the application of renewable energy sources in households and motivate them for using such devices that might check exhaustion of non-renewable energy sources like coal and oil. He said that Union Ministry of Non-Conventional Energy Sources has sanctioned a project in this regard to the university and earmarked a sum of approximately Rupees four lakh for its execution.

Dr. Arya said that devices run with solar energy like solar water heater, solar cooker, photovoltaic (PV) television, PV street light, PV lantern, solar crop drier, PV pump set, family size biogas plant, biogas gasifier etc, would be installed in the park. Arrangements for demonstrations of these devices to the visitors would also be made, he said.

The Union Ministry of Non-Conventional Energy Sources has mooted a scheme of establishing Energy Parks in the country with the aim of awakening masses to the adoption of renewable energy. Under the scheme the Ministry had made provision of 10 such parks for each state. Amount ranging between one lakh and 10 lakh depending upon size of the institution would be allocated by the Ministry. However, the funds would be released through the state government nodal agency.

The Vice-Chancellor said that the College of Agricultural Engineering and Technology of the university, in the premises of which this park would be developed, had made headway in familiarising a number of rural families with alternate energy sources. This process was continued through awareness camps being arranged by the college faculty from time to time at the doorsteps of farm families, he said.

The establishment of Energy Park at the University would add new dimension to its ongoing process of awakening masses about adoption of non-conventional energy sources, Dr. Arya hoped.

News from AICTE

Programme Accreditation in Engg & Tech

The National Board of Accreditation established by the All India Council for Technical Education has developed the necessary infrastructure and formulation of appropriate policy guidelines for initiating the process of accreditation for undergraduate & postgraduate programmes in Engineering and Technology, Architecture, Town Planning, Pharmacy, Technician Board (diploma level), etc. The major policy initiated is to accord accreditation at programme level i.e. for four year undergraduate engineering degree course after 10+2 and the 3 semester M.E./M.Tech. programme after bachelor's degree. It is not intended to accredit institutions as such.

The overwhelming aim and objective of the accreditation is to recognise and acknowledge the value addition in transforming the admitted raw students into capable engineers having sound knowledge of fundamentals and acceptable level of professional competence for ready employability for responsible engineering assignments nationally and globally.

The policy guidelines have been translated into a working plan of action by developing a systematic, logical and transparent procedure of accreditation by a process of discussion, deliberation and national consensus. The various accreditation parameters and benchmarks have been established for their acceptance. These have already been widely disseminated during various "awareness" workshops and seminars conducted all over the country. Several national level bodies of participants/individuals have contributed their collective wisdom for this national task. The AICTE has already received proposals for accreditation from more than 250 degree level programmes (both undergraduate and postgraduate) from 40 different technical institutions covering a wide spectrum that includes full-fledged technical universities, autonomous aided institutions, Regional Engineering Colleges, the affiliated Government Colleges as well as private self-financing engineering and technical institutions.

As a precondition to the accreditation process, the AICTE, through its various All India Boards of Studies has revised its norms and standards in various sectors of technical education like Architecture, Computer, Pharmacy, Engineering and Technology, Town & Country Planning, Technician Education, Catering Technology, etc. These norms have been approved by the competent bodies of the AICTE and provide a set of minimum essential requirements both of academic infrastructure as well as physical and other resources essential for starting a new degree programme. These are the minimum requirements for approval of new programmes but it is expected that institutions desiring and deserving "accreditation" shall substantially exceed these norms to demonstrable extents to indicate not only the current competence in providing adequately useful teaching and learning process but also an assured capability to retain this competence in future also.

The National Board of Accreditation has, after deliberations and extensive debate, taken a conscious decision to focus the accreditation process on the individual degree programmes offered by the institution rather than institution as an entity. This is because of the fact that the aspiring students usually aim at making a career in specific Engineering discipline like Computer, Mechanical, Chemical, etc. Therefore accreditation of degree programme provides a more meaningful career guidance decision support for the students as well as aids the employing industry to focus their campus recruitment process accordingly.

News from Abroad

GIS Training Programme

The Asian Institute of Technology, Bangkok, proposes to organise a three-week Training Program on PC Based Geographic Information Systems (using GIST & ARC/INFO) on 5-23 August, 1996.

The course is directed towards professionals from all sectors involved in the preparation and planning of spatial and non-spatial information within their organizations.

It aims to introduce Professionals the concepts and skills required to use GIS for systematic analysis of environmental and natural resource problems. The emphasis is on the concepts and methods, rather than on comprehensive software training, enabling trainees to apply the approach to the specific conditions of their own office environment.

The programme is intended for Natural resources planners and managers — landuse planners, foresters, agriculturists, watershed managers, soil scientists, environmentalists, Civil engineers involved in infrastructure planning — road, water supply, irrigation, land development, city planning, surveying, mapping, Rural, regional & urban planners, and Geographers, EIA experts, etc.

The course contents include : Module I — GIS Overview; Vector Data, RDBMS; Module II — Spatial Database Construction, Map Integration & Flow Charting, Modelling in ARC/INFO. and Digital Elevation Model, Module III — Cartographic Techniques & ARC/INFO; Data Conversion & Data Errors, Introduction to Raster Data Analysis, Image Processing Concepts - An Input to GIS, and Methods and Execution of GIS Projects.

Further inquiries may be addressed to : The Manager & Program Specialist, GIS Applications Center (GAC), Space Technology Applications & Research (STAR) Program, School of Environment Resources & Development (SERD), Asian Institute of Technology (AIT), G.P.O. Box 2754, Bangkok 10501, Thailand.

International Conference on Environmental Education

The National Board of Education in Finland together with the Nordic Council of Ministers, the Ministry of Education in Finland and local organizers, propose to organise an International Conference on Environmental Education on 26-30 June 1996, in Savonlinna, Finland.

The conference will be a discussion forum and a learning arena for Nordic and other developers of environmental education. It aims to penetrate and reflect new innovations of constructive theories of learning and teaching in environmental education. The conference will focus on (i) conflicting interests in the use of natural resources (initiative of the Nordic Council Ministers on environmental education); (ii) ecologically enlightened life-styles (the county of St Michel is a demonstration region for the implementation of Agenda 21); and (iii) landscape as a dialogue between nature and culture.

The conference, objectives are to present and discuss Nordic advancements in environmental education; find out ways to raise the quality of environmental education; mediate experiences of good teaching practices; and intensify the multiplier effect of innovations in environmental education through active co-operation between European countries.

For more information write to Liisa Jaaskelainen, National Board of Education, Education and Consultancy Services, PO Box 380, 00531 Helsinki, Finland.

We Congratulate....

1. **Mr. R.M. Vasagam who has been appointed Vice-Chancellor of the Anna University, Madras.**
2. **Dr. M.D. Tiwari, who has taken over as the Chairman, U.P. State Council for Higher Education, Lucknow.**

News from UGC

Countrywide Classroom Programme

Between 1st June to 7th June, 1996 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 6.00 a.m. to 7.00 a.m. and 1.00 p.m. to 2.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

6.00 a.m. to 7.00 a.m

1.6.96

"A Question of Proof"
"Highlight of the Half Century: A Debate"

2.6.96

"The Clay, the Flesh, the Spirit - Part I"
"Indigo Dyed Fabrics"
"The Week Ahead"

IRMA

INSTITUTE OF RURAL MANAGEMENT, ANAND

Institute of Rural Management, Anand, is looking for a suitable candidate in the category of **Research Associate** to join the interdisciplinary team engaged in the research project **Rural Livelihood Systems and Sustainable Natural Resource Management in Semi-arid Areas in India**. The Project focuses on prospects for sustainable management of natural resources in the context of rural livelihood systems and hopes to contribute to the design and implementation of innovative development approaches.

The Project was started in January 1994. Phase II of the Project, currently underway, is expected to be completed by December 1999.

Qualification: Ph.D in Agricultural Economics/Economics/Rural Sociology/Anthropology/Environmental Sciences. Those awaiting results also may apply.

Salary: In the pay scale of Rs. 2200-75-2800-100-4000 with other allowances as admissible under the IRMA rules.

Duration: The appointment will be purely contractual for two years. However it is extendable till the end of the Project.

Applications may be sent to: *Prof. P Thomas, Coordinator, RLS Research Project, Institute of Rural Management, PB No.60, Anand Gujarat. 388001.*

4.6.96

"Study of Oscillations in Various Potential Wells"

"Communication: Art — An International Language"

"Head and Neck Surgery of the Parotid Gland"

6.6.96

"Metallurgy in Ancient India"

"Extinction of Dinosaurs- Part I: Indian Context"

"Four Great Inventions in Ancient China"

IInd Transmission
1.00 p.m. to 2.00 p.m

1.6.96

"Travelogue of Hindustani Music - Part I: Historical Music"

"Mahatma Gandhi as a Journalist - Part I"

"Was All the Training in Vain: Muscular Strength"

2.6.96

"No Telecast"

3.6.96

"The Week Ahead"

"Human Resource Development - Part 10 : Merit Rating"

"Coconut Production Technology"

4.6.96

"University Industry Integration-Part II"

"Learning Disabilities Influenza Virus-Vaccine"

"Manufacture and Control"

5.6.96

"Oscillation-Explanation and Definition"

"Bookfare-Part X: Management"

"The Precious Casket"

6.6.96

"Harnessing Sunlight through Fibre Optics"

"The Forests are Dying"

"Unveiling Poetry-Part 2"

7.6.96

"Game Theory-Part 3: Graphical Method"

"Social Evils"

"Catalytic Converter-A Hope for Green Air"

Hindi Telecast
प्रातः 6.00 से 6.30 बजे तक

3.6.96

"निश्चेतना"

"ध्वनि प्रदूषण"

5.6.96

"कुदरती खेती-प्रकृति से संवाद"

"इट्स नेवर टू लेट"

7.6.96

"रुप एवमं विचार भाग -1"

DEVI AHILYA VISHWAVIDYALAYA,
University House, R.N.T. Marg, INDORE - 452 001 (M.P.)

No. Dev-IX(412)/96 **ADMISSION NOTICE** **Dated: 10.5.96**

Application are invited for the following academic programmes on or before 21-6-96

- B.P E. in Physical Education (3 Years Degree Course) M P Ed (2 years) (Self Finance)
- Degree Course in Journalism and Mass Communication (one year). B.Lib I Sc. Higher Certificate in Printing Technology.
- M A. in Economics, Sanskrit
- M.Sc. in Physics, Physics by Research, Mathematics Life Sciences, Microbiology, Bio-Chemistry and Statistics
- B.C.Ed., M.C.Ed. (Part time 2 years), M.Ed
- M.S. (Instrumentation) under Instt. of Instrumentation.
- Masters of Sc. Tech & Communication (School of Future Studies)
- M.Tech in Future Studies & Planning, Laser Science & applications
- M.Phil in Engineering Physics, Mathematics, Bio-Chemistry, Statistics, Economics, Education.
- M.Phil (Evening) in English, Hindi, Sanskrit, Urdu, Geography. History. Sociology. Political Science, Commerce, Home Science, Philosophy, Music, interdisciplinary.
- Ph.D. in Physics, Maths, Life Sciences, Bio-Chemistry Bio-Technology, Statistics, Futures Studies & Planning, Economics, Education. Comparative Languages & Culture, Sanskrit, Bahai Studies, Electronics, Management Instrumentation, Renewable Energy Systems, Passive Architecture, Thermal Storage, Energy Conservation, Environmental Pollution

All Schools of Studies and Institutes offer Ph.D. Programmes A candidate for Ph D may work in a particular subject of interdisciplinary areas, eligibility 55% at post-graduate DIPLOMA: Guidance & Counselling; Secretarial Practices, Interior Designing, Adult Education, Literacy, Kannada, Nursery Teacher Training (Education). Dramatics (one year). Applied Statistics, P.G. Diploma in Labour Law & Personnel Management, Translation. Certificate (one year) and Diploma (2 years) in Scientific Glass working for (10+2) Science candidates under Instt of Instrumentation

Application forms may be obtained from the Stores of the University by paying Rs. 70/- in cash/Crossed D.D./I.P.O. payable to Registrar, DAVV, Indore which includes fees for entrance test. Students, whose results are awaited may also apply Entrance test will be held in last week of June 1996. Application completed in all respects must be submitted direct to the concerned Head of School of Studies only

Dr. S.K. Begde, REGISTRAR

BOOK REVIEW

Last Word in Style

S. Bashiruddin*

The Chicago Manual of Style, 14th Edition. New Delhi, Prentice Hall, 1996. Rs. 325/-.

The Chicago Manual of Style has served as a constant source of versatile reference for writers, academics, editors and scholars in general. The 14th edition of this volume and the first Indian reprint brought out in 1996 has several innovative arrangements that would be of considerable relevance to writers, editors of manuscripts and for all those engaged in professional editing and publishing. Though the book runs to over 900 pages, it may be treated as the last word in style, punctuation, documentation, guidelines for copy editing, manuscript preparation, etc.

It has a handy index which serves as a reference to the right pages for how to quote, hyphenate, punctuate and idiomatically present by re-writing. Sample manuscript excerpts are ably illustrated with passages from leading writers or reference works, including government manuals and reports and quality newspapers that would be of value to scholars, researchers, thinkers, who wish to translate their ideas in print.

A new chapter on Computerised Storage and Processing and Printing updates the manual to present day needs. The use of video display terminal in type setting is dealt with as the modern input, and how to cope with recent advancements, including the low cost DTP and economical composition and printing devices are explained in detail. All kinds of electronic imaging and their on-line correction find a place in this updated version.

Video recorded transcriptions, recording of plays and how to blend them with the text as necessarily the imaging techniques are a modern need which is also covered.

The manual includes sectional glossary of technical terms, an extensive bibliography of reference tools related to writing, publishing, copyright and encyclopaedia. The techniques of cross referencing and its value to the reader are highlighted. Attention to concrete details in writing which very few writers observe such as word division, hyphenation, capitalisation, etc are made clear and the mystery, if any, is removed.

Anyone who browses through the *Chicago Manual of Style* would become aware of the extent of ignorance of several principles of style in writing, documenting and editing. Many of us including experienced writers would benefit from consulting the manual as one is bound to gain from its lucid, relevant and correct approach to many of the problems in writing, editing and publishing. It is not only a book of style but a reference tool on all aspects given to scholarly undertakings.

The editor strongly commends the volume for the tables of editors, academics, lawyers, statesmen and bureaucrats who have anything to do with formal writing and documentation, as they will benefit from this book as almost all their needs will be met and that too, in a single volume.

In these days when even Ph.D theses carry errors and inaccuracies in writing and presentation, the *Chicago Manual of Style* must find a place in every University Seminar Room and library reference shelves.

From detailed guidelines on manuscript preparation to copy editing, the mode of inserting quotations, conceiving captions and legends, the manual serves as a broad spectrum handy reference. The chapter on design and typography, printing and binding is also of help to those seeking guidance in these areas.

It is a ground breaking work as it furnishes a variety of examples supplemented with discussions. Recent developments in the areas of floppy disks for storage and computerised presentation of textual material can be of help to those in this hitherto unchartered territory.

**Former Vice-Chancellor, Dr. B R Ambedkar Open University and Senior Professor of Journalism, Osmania University. O.U.B-2, Osmania University Campus, Hyderabad-500 007.*

The most useful approach in the book has been to make available the voluminous quantity of material accessible to the reader through a useful method of presentation. Copyright guidelines governing intellectual property and the reasons thereof also find a place in the manual including electronic data base rights, E-disks and CD-ROM rights. The need to capitalise trade marks and other symbols is highlighted. Examples of legal agreements, and MoU's with citations are also included.

A careful writer would benefit from its contents. The authors have written sections how to handle manuscripts in Greek, Hebrew, Latin, French, etc for scholastic needs. Browsing through this manual in itself is an intellectual exercise as it makes one conscious of several areas and gives new insight and perspective.

Tricky and stylistic areas such as 12th (Twelfth) century and the proper use of the definite article are the other guidelines.

Symbols for copy reading, in its full range find expression. Likewise, representative samples of type faces and their technically accurate terminology — Century, Sans Serif, Bodoni, Italics, Roman, etc — will give considerable confidence to those engaged in the choice of type faces whether for invitation cards, a brochure or a full-fledged book including content pages, blurbs or jackets.

There is an extensive bibliography of periodicals, tools of publishers, publishing documents, legal catalogues, etc.

Composing and publishing are today computerised; the manual has taken care to include all that is relevant to the new comer to the field both in terms of composing and deciphering. Though the cut-off point remains 1995 or thereabout, an extensive bibliography of all terms connected with publishing and an exhaustive glossary of terms are printed covering a 50-page index. This 1996 first Indian edition is timely and would serve the needs of any forward looking, quality conscious person engaged in writing, legal drafts, documentation, publishing whether it be manual, typewritten or computerised

In conclusion, the 14th edition published by Prentice Hall of India is a must in the reference section of libraries and on the tables of editors The hard-bound edition is comparatively reasonably priced at Rs. 325/- with strong stitching and binding

INSTITUTE FOR SOCIAL AND ECONOMIC CHANGE

NAGARABHAVI PO, BANGALORE - 560 072

ADVT No. I/18.303

Applications are invited for the following posts:-

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All the posts carry UGC scale of pay. Minimum 50% marks in Master's degree required.

For full advertisement and application form, please write to The Registrar, Institute for Social and Economic Change, Nagarabhavi PO, Bangalore 560 072, with a self-addressed stamped envelope of Rs. 3/- (28x11 cms). Last date for receipt of completed application is **31 July 1996.**

REGISTRAR

JUST ANOTHER TIME

Several years ago, an unfortunate young child got locked in his classroom on the last day of the academic session. No one opened the room while searching for the child as everyone responsible in the school had proceeded on vacation. The fate of this child could upset any human being anywhere. Recently a young girl walked to her death while moving from one compartment to another in a train. Someone had not cared to monitor the connecting passage. Within a few seconds a young life was literally shattered to pieces. The train did not stop and it was only after several hours that the place was visited by officials. School buildings, callously neglected, collapse killing children. One comes across scores of such tragedies that befell children in schools. There are occasions when numbers are alarmingly large. I have never been able to perceive the real reasons for variations in the figures of the dead as given officially and those assessed by non officials.

The shocking tragedy of Dabwali shall be remembered for many years. For the bereaved families life shall never be the same again. There would be a lot of activity to provide relief to them; compensations, jobs and plans to improve upon the medical facilities and other related services. We would all hope that it would be done expeditiously and sincerely.

So much is changing in every aspect of human activity. Violence, accidents, deaths and mishaps are, regretfully, read and heard as continuation of the routine. These are often treated as inevitable in changing situations. An eminent educationist, Michael Fullan, conducted a research study in North American context and came out with a book of around 500 pages entitled *The Educational Change*. He elaborates the simple premise : not all changes are coupled with progress. Change is everywhere, progress is not. We have achieved a lot in our educational endeavours. Literacy rates have gone up, we have more and more teachers, more officers in education department and more children in schools. We read of more and more tragedies involving children. Young lives perish prematurely because of one single factor — somebody has not done his or her job sincerely and seriously. While people perform their duties, earn their salaries, a 'job well done' often remains an elusive goal. The basic purpose of education, to prepare individuals with a sense of commitment to the society and to the fellow beings, has probably not yet endeared itself to us. The tragedy at Dabwali has brought forth the fact that several necessary precautions were just ignored. If so, how could those responsible for organising the function forget to ensure basic safety measures, including the missing arrangements for fire safety.

It must be acknowledged that the education we impart leaves several gaps in preparing young persons for undertaking responsibilities for life. Education alone would play a major role in filling these gaps. Having taught young boys and girls at the university level for more than 30 years, I have no hesitation in stating that the perceived society with men and women of commitment and dedication would be mainly an outcome of efforts and initiatives that must emanate from schools, colleges and universities of the country.

The first prerequisite would be the value-based functioning of all educational institutions. A large number of universities, under severe financial crunch, have gone to launch several programmes to generate funds. The prime objective, officially unstated, is not the preparation of young persons and equipping them for life but to generate financial resources. Worst sufferers are those who are opting for a teacher training degree or diploma through correspondence courses. Exorbitant amounts are charged as fees. Only a part is spent on the programmes which are now universally known to be poor in quality and content. Degrees are awarded without much consideration of rigour, training or acquisition of skills. The quality suffers, those who get these degrees are treated as of inferior variety but the universities proudly claim to have earned few crores as resource. Many of these poorly trained teachers could be teaching the grandsons and granddaughters of those who neglect the professional requirements of such programmes. A large number of training colleges function with practically no regular staff and without adequate facilities of space and equipment. Even they charge exorbitant fees. Short term gains over shadow long term national perspectives. Interestingly, in all these training programmes, there are chapters on values in human life; value inculcation. Questions are asked on various aspects of value inculcation and answered by the trainees. However these institutions continue to flout a value based approach towards their own students. Admittedly, the young educated boys and girls learn from the university system and their teachers. Their general awareness levels are high and they have the capacity to observe what is happening all around. The type of climate that we present before the young persons often erodes possibilities of internalisation of commitment, sincerity and a keen sense of social obligations. Our school children suffer the tyranny of curriculum load. As they grow up they have the glimpse of uncertain future before them. We stuff so much in our curriculum. We leave promising young persons in the ever increasing category of educated unemployeds. Education they receive is of not much help to the majority.

The relevance of education has to be of prime consideration. Education for the 21st Century is being talked about the world over. Unesco has appointed a commission under the chairmanship of Jacques Delores. In one of the presentations, it was pointed out that the commission has identified two basic principles of education for 21st Century : development and creativity as the first and social cohesion as the next. The education system at each level, from schools to higher institutions, needs to take note of the emerging context in education. To understand what poor education or bad education could do, one may like to recall a poignant letter written by a survivor of concentration camp: (H. Ginot, *Teacher and Child*, New York, Macmillan, 1977)

> *Dear Teacher,*
>
> *I am a survivor of a concentration camp. My eyes saw what no man should witness.*
>
> *Gas chambers built by learned engineers.*
>
> *Children poisoned by educated physicians.*
>
> *Infants killed by trained nurses.*
>
> *Women and babies shot and burned by high school and college graduates.*
>
> *So I am suspicious of education.*
>
> *My request is : Help your students to become human.*
>
> *Your efforts must never produce learned monsters, skilled psychopaths, educated Eichmanns.*
>
> *Reading, writing, arithmetic are important only if they serve to make our children more humane.*

Educational institutions need to give a serious consideration to the intent of this letter. True, we are not in that miserable situation. We certainly are not in a very encouraging situation.

There is another side to this aspect which gives a ray of hope. When the infamous Bhopal gas tragedy took place in 1984, I was amongst the fortunate who survived with minor effects only. For about a week, a large number of young boys who were known to be notorious in the university system were seen working and serving the needy and helping the unfortunates. It changed so much in the perception of those who saw them performing such a humanitarian role. Our young persons have all the necessary potential to become sensitive and responsible citizens with ethics and values. The tragedy is the non availability of the right role models before them. In pre-independence days, the elders placed their own example before them. They responded in full strength. The older generation of today has definitely failed on this count. Hence the culture of holidays, relaxed work culture and no accountability. Only a total transformation in the approach towards the assigned tasks could prevent Dabwali from becoming just another number in the series tragedies and accidents.

J.S. Rajput
Chairman,
National Council for Teacher
Education,
16 Mahatma Gandhi Marg,
I.P. Estate, New Delhi-110 002

SHRI LAL BAHADUR SHASTRI
RASHTRIYA SANSKRIT VIDYAPEETHA
(Deemed University)
Katwaria Sarai, New Delhi-110016

ADMISSION NOTICE (1996-97)

Applications on prescribed form are invited for Shiksha Shastri (B.Ed.) Course admission test.

Eligibility

1. (A) Shastri / B.A. (with Sanskrit as one of the main subjects) or equivalent examination with minimum 45% marks in aggregate in 10 + 2 + 3 pattern of education
   OR
   (B) Acharya / M.A. (Sanskrit) with minimum 45% marks in aggregate.
   OR
   (C) Acharya Ist Year / M.A. (Sanskrit) Ist Year / Bridge Course examination of one year duration with minimum 45% marks in aggregate at graduate level in 10 + 2 + 2 or 11 + 3 pattern of education.
2. Must have studied atleast one school subject / language at graduate level in addition to Sanskrit.

Age : 20 Years minimum on 01.10.1996

Relaxation

Relaxation of 5% marks in the marks obtained at graduate level to the Scheduled Castes, Scheduled Tribes, handicapped, dependent of military / para Military personnel deceased / disabled in hostility.

The application forms and prospectus can be had from the Office of the Vidyapeeth on or before 17. 06. 1996 on payment of Rs. 30/- in cash or by sending a crossed Demand Draft of Rs. 40/- in favour of 'Registrar, Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha, New Delhi -16'.

The last date of receipt of duly filled in application forms is 17 .06. 1996.

DR. GANGADHAR PANDA
REGISTRAR

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Humayoon Kabir, S. **Growth of Indian horticultural literature during 1980-89 and the contribution of Indian horticultural scientists in foreign horticultural periodicals: A quantitative analysis.** Bangalore. Dr A Y Asundi, Prof, Department of Library and Information Science, Bangalore University, Bangalore.

2. Siddamallaiah, H S. **Design of integrated consumer health information services.** Bangalore. Dr A Y Asundi, Prof, Department of Library and Information Science, Bangalore University, Bangalore.

3. Stanley, Madan Kumar. **A study of scientific communication and information exchange pattern among fisheries scientists of India.** Karnatak. Dr C R Karisiddappa, Prof, Department of Library and Information Science, Karnatak University, Dharwad.

Psychology

1. Bhupinder Singh. **Development of psycho-social profiles of Indian athletes.** Punjabi. Dr Agyajit Singh, Reader, Department of Psychology, Punjabi University, Patiala and Dr H A Khan, Scentific Officer and Head, Department of Sports Psychology, National Institute of Sports, Patiala.

2. Jaledia, Umed Singh. **A study of relationship between types of creativity and types of intelligence.** Kurukshetra,

3. Joseph, George. **Life satisfaction in industrial organizations as a function of work issues.** Ravishankar, Dr (Smt) Promila Singh, Reader, School of Studies in Psychology, Pt Ravishankar Shukla University, Raipur.

4. Mukundan, Hemlata. **Neuropsychological correlates of schizophrenia, Unmada.** Bangalore. Dr S M Channabasavanna, Director, National Institute of Mental Health and Neuro Sciences, Bangalore.

5. Parvatha Virdhani, R. **Emotional disorders among urban and rural preschool children: An exploration of family and psychosocial dimensions.** Bangalore. Dr Achala Umapathi, Prof, Department of Psychology, Bangalore University, Bangalore.

6. Sebastian, C M. **Reavial failure and personality corelates.** Garhwal. Dr Lata Gairala, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

7. Sharma, Pratibha. **Vridhavastha kee samasyayon ka ek manosamajik adhyayan.** Ravishankar, Dr B G Singh, Lecturer, School of Studies in Psychology, Pt Ravishankar Shukla University, Raipur.

Sociology

1. Ather, Nagiya Ali. **Caste, class and occupational mobility: A study of executives and non-executives in industries.** Osmania. Prof G Viswanadham, Department of Sociology, Osmania University, Hyderabad.

2. Gowri, A Satya. **A study of rural anganwadi workers: Sociological, economic and cultural dimensional perspectives and problems.** Padmavati. Dr S A T Adilakshmi, Reader, Department of Women's Studies, Sri Padmavati Mahila Visvavidyalaya, Tirupati.

3. Keller, Nalini. **Protestant Christian women of Jabalpur, 1947-1993.** Durgavati. Dr C S S Thakur, Head, Department of Sociology, Rani Durgavati Vishwavidyalaya, Jabalpur.

4. Khan, Fareed Ahmad. **Social stratification and education among Muslims: A comparative study of a village and a town in Basti District U P.** AMU. Dr M B Mathur.

5. Mohan, Mamta. **Bal shramikon ka samajshastriya adhyayan : Jabalpur Nagar ke vishesh sandarbh mein.** Durgavati. Dr P B Sengupta,Department of Sociology, Rani Durgavati Vishwavidyalaya, Jabalpur.

6. Mukherji, Priyadarsi. **Myths and societies: A comparative analysis of Chinese and Tibetan folk literature.** JNU. Dr Dawa Norbu. Centre for South, Central, South-East Asian and South West Pacific Studies, Jawaharlal Nehru University, New Delhi.

7. Sharma, Alka. **Baiga mahila evam vikas karyakram: Ek samajshastriya adhyayan: Mandla Jile ka vishesh sandarbh mein.** Durgavati. Dr Prahlad Mishra, Department of Sociology, Rani Durgavati Vishwavidyalaya, Jabalpur.

8. Shukla, Archana. **Shramjivi mahilayon ka parivarik samayojan: Bilaspur Nagar mein bhavan nirman karya mein sanlagna mahilayon ka samajshastriya adhyayan.** Ghasidas. Dr (Mrs) Damyanti Thakur, Member, PSC - C4 Residency Area, Indore.

Social Anthropology

1. Gangadhar, Nayana. **Media images of women with special reference to television.** Karnatak. Dr (Smt) Prabha Mahale, Deputy Director, E T C India Pvt Ltd. New Delhi.

2. Vashisht, Harish. **Population structure of transment Gujars of U P Shivalik.** Garhwal. Prof R S Negi, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

Social Work

1. Haranath, Sarvasiddi. **Street children of Visakhapatnam: A study of their socio-demographic profile.** Andhra.

Political Science

1. Awasthi, Pushpa. **Shri Lal Shukla ka sahitya ka adhyayan.** Ghasidas. Dr Shiv Prasad Pandey, Department of Hindi, C S Dube College, Bilaspur.

2. Chandrakar, Anjali. **Durg Jile mein vikas khand stariya prashasan evam rajniti.** Ravishankar. Dr Mahesh Upadhyay, Prof and Head, Department of Political Science, R C S Arts and Commerce College, Durg.

3. Dhruw, Laxmi. **Madhya Pradesh kee Vidhan Sabha evam rajniti mein virodhi dalon kee sthiti aur bhumika ka anusheelan.** Ravishankar. Dr Salabh Kumar Tiwari, Prof and Head, Department of Political Science, Govt Arts and Science College, Durg.

4. Dubey, Mukta. **Bharat Pak sambandh: Shimla samjhote ke vishesh sandarbh mein ek vishleshan, 1971 se vartman tak.** Ghasidas. Dr Saroj Kumar Mishra, Prof (Retd), Govt College, Kasdol.

5. Farooqui, Nehal A. **Transumance in the Central Himalaya: A study of its impact on environment.** Garhwal. Dr Annapurna Nautiyal, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

6. Ghodke, Sharad. **The political awareness of Khatik Community in Pune District.** Tilak, Dr S R Kakade.

7. Jain, Saroj. **Pt Dawarka Prasad Mishra ka rajnaitik netritva: Ek adhyayan.** Durgavati. Dr (Smt) V Mehta, Department of Political Science, Rani Durgavati Vishwavidyalaya, Jabalpur

8. Jayalakshmi, A R. **Role of Parliament in Indo-Soviet relations in the post Nehru era: A study of some selected issues.** Bangalore. Dr P S Jayaramu, Prof, Department of Political Science, Bangalore University, Bangalore.

9. Kuldip Kaur. **The politics of splits and mergers in Akali Dal since 1962.** Punjabi. Dr Kahar Singh and Dr Satish Kumar Sharma, Department of Political Science, Punjabi University, Patiala.

10. Lakshmi, G. **The press in Indo US relations during the Nehru era.** Andhra.

11. Mahmood Hussain. **Diplomacy for Statehood: The case of Palestine Liberation Organisation.** JNU. Prof Satish Kumar, Centre for Studies in Diplomacy, International Law and Economics, Jawaharlal Nehru University, New Delhi.

12. Mallik, Madhushree. **Local organisation and common property land resources with reference to special forestry in Orissa.** Bangalore. Dr S N Sangita, Institute for Social and Economic Change, Bangalore.

13. Naveen Kumar. **Bharat kee rashtravadi rajniti mein Arya Samaj kee chintandhara.** Garhwal. Dr D N Bhatkoti, D A V College, Dehradun.

14. Pande, Mamta. **Shri Rajiv Gandhi ke Pradhanmantritva kal mein Bharat kee videsh niti, 1984-89.** Devi Ahilya, Dr Usha Tiwari, Principal, Devi Ahilya Arts and Commerce College, Indore.

15. Pattnaik, Rajat Kumar. **Western powers and Namibian settlement: A study of changing world politics and its impact on liberation struggle in Southern Africa.** JNU. Prof Anirudha Gupta, Centre for West Asian and African Studies, Jawaharlal Nehru University, New Delhi.

16. Prabhakar, H S. **Role of religion in contemporary Japanese politics: A case study of Sokagakkai and its politics.** JNU. Prof P A Narasimha Murthy, Centre for East Asian Studies, Jawaharlal Nehru University, New Delhi.

17. Prasad, Bibhuti Bhushan. **Political dimensions of the co-operative movement in Bihar.** Magadh.

18. Pundarika, A. **Iran and the Indian Subcontinent, 1979-90.** JNU. Prof A H H Abidi, Centre for West Asian and African Studies, Jawaharlal Nehru University, New Delhi.

19. Rajnish Kumar. **Parvatiya janjati evam rajnitik sahbhagita: Chamoli evam Kinnore Janpad ka tulnatmak adhyayan.** Garhwal. Dr S C Sood, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

20. Singh, Ajay Kumar. **Socio-cultural regionalism in India: A study of Maithili Movement in North Bihar.** JNU. Prof S N Jha, Centre for Political Studies, Jawaharlal Nehru University, New Delhi.

21. Surendra Prasad. **Sahkarita netritva : Garhwal kshetra ka ek adhyayan.** Garhwal. Dr H K Singh.

22. Swami Avsheshanand. **Nagariya sthaniga swashanan : Hardwar Nagar Palika ka ek adhyayan.** Garhwal. Dr M M Semwal and Dr C P Barthwal, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

Economics

1. Arun Kumar, A V. **Rural industrialisation in Kerala: Aspects of technology and employment.** Osmania. Prof Vinod Vyasulu, Institute of Social and Economic Research, Bangalore.

2. Augustine, Thomas. **An analysis of the Indian defence expenditure during 1963-1991.** Roorkee,

3. Bhalerao, Ramchandra Namdeo. **Trends in credit development with reference to scheduled commercial banks in India since 1969.** Marathwada. Dr B B Kawade, Reader, Department of Economics, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

4. Bhoite, Dilip Maruti. **Evaluation of the implementation of Jawahar Rozgar Yojana in Pune District.** Tilak, Dr B D Kulkarni,

5: Brar, Balbir Kaur. **An economic analysis of farm mechanisation in Punjab.** Punjabi. Dr H K Manmohan Singh, Department of Economics, Punjabi University, Patiala.

6. Dasgupta, Byasdeb. **International debt crisis and debt management policies in the eighties: The problem of net transfer of financial resources.** JNU. Prof Sunanad Sen, Centre for Economic Studies and Planning, Jawarharlal Nehru University, New Delhi.

7. Dobriyal, Mukta. **Gramodyogon ka parvatiya kshetra ke arthik vikas khand mein yogdan : Vikas Khand Dasholi ka vishesh adhyayan.** Garhwal. Dr N S Bisht, Hemwati Nandan Bahuguna Garhwal University Campus, Srinagar.

8. Durga Parameswari, Chinta. **A study of the trends in tenancy and the efficiency and exploitation of tenants.** Andhra.

9. Grewal, Jagdip Kaur. **A study of non-crop activities in rural Punjab.** Punjabi. Dr C S Nagpal, Department of Mass Communication and Journalism, Punjabi University, Patiala.

10. Indra Jeet Singh. **Pattern and requirement of commercial and non commercial energy use in irrigated and unirrigated agriculture in Hardwar District, U P.** Roorkee.

11. Jain, Pramod. **M P mein swasthya sewayon ka kshetriya vikas evam asamantayen.** Barkatullah. Dr H S Yadav, Department of Regional Planning and Economic Growth, Barkatullah Vishwavidyalaya, Bhopal.

12. Kale, Shreepad Laxman. **Contribution of religion to the evolution of just society.** Devi Ahilya. Dr V D Nagar, 'Nathkripa', South Tukoganj, Indore.

13. Lalita Kumari. **Dimensions of socio-economic disparities among the rural households in Mandi District of Himachal Pradesh.** HP.

14. Meerkar, Deepti. **Jila sakh yojnayon ka kshetriya arthik vikas per prabhav : Indore Jile ke vishesh sandarbh mein.** Vikram. Dr Gajendra Parakh, Lecturer, Department of Economics, Vikram University, Ujjain.

15. Pardeep Singh. **Impact of environmental protection programmes on productivity and efficiency of industrial workers in Haryana.** Kurukshetra.

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(A) At the National Institute of Cholera & Enteric Diseases, Calcutta: 1. Deputy Director (Molecular Biology) - (One post) (Scale of Pay of Rs. 4500-150-5700). **Qualification & Experience : Essential** : M.B.B.S/1st class M.Sc. in Life Sciences with 12 years experience (or 10 years in case of those with MD/Ph.D. Degrees) in research/teaching in molecular biological aspects and biotechnology of enteric pathogens (leading to diarrhoeal diseases). Original research work as evidenced by scientific publications. **Job requirements** : **1)** The incumbent would be expected to be familiar with techniques of protein/toxin purification, hybridoma techniques for generating anti-sera, developing immuno-diagnostics for enteric pathogens, and be conversant with molecular epidemiological techniques, as related to enteropathogeno (including vibrio cholerae). Experience in Modern molecular techniques like PCR (Polymerase Chain Reaction) and pulse field get electrophoresis also essential. **II)** The incumbent should be prepared to go on laboratory/Field duty any where in India, whenever required. **III)** The incumbent is expected to be able to assist in planning, implementing, coordinating and supervising research in the above mentioned areas/fields. **2. Senior Research Officer (Epidemiology)** - (One post) (Scale of pay of Rs. 3000-100-3500-125-4000). **Qualifications & Experience : Essential :** M.B.B.S. with 6 years research/teaching experience in public health/community medicine/epidemiology with special reference to diarrhoeal diseases or MD in preventive & Social Medicine with 2 years of research/Teaching experience in the areas listed above. **Job Description: 1)** To assist in organizing community based epidemiological & operational studies related to diarrhoeal diseases, including field studies & investigation of epidemics/outbreaks. **II)** To assist in surveillance for diarrhoeal diseases, observational studies on infant feeding practices, transmission pattern of diarrhaegenic agents, and prospective follow up studies on natural history and evaluation of interventions (including vaccines) for control of diarrhoeal diseases. **III)** The incumbent should be prepared to go on field/laboratory duty anywhere in India, as and when required. **(B) AT THE DESERT MEDICINE RESEARCH CENTRE, JODHPUR: 1. Deputy Director** - (one post) (Scale of pay of Rs. 4500-150-5700). This Centre is engaged in carrying out research studies on regional health problems like malaria, dengue, leishmaniasis, dust related diseases, nutrition, maternal & child health, health services research and epidemiology. This Centre has facilities for conducting clinical & laboratory studies. **Qualification & Experience : Essential : 1)** M.B.B.S. Degree or 1st class Masters degree in any subject in Biomedical Science with 12 years teaching/research experience preferably in health problems of desert region or M.D./Ph.D. in PSM, Community Medicine, other Biomedical areas with 10 years of experience in teaching/research in health problems desert region. **II)** Original research work as evidence by scientific publication. **Desirable : Administrative/managerial experience in reputed organisations. Job Requirements:** This is a senior post and the Deputy Director is expected to assist in the identification, formulation, implementation and supervision of R&D programmes and in organising/ coordinating team work involving field research and to interact with other agencies for health and research activities. **Age:** Below 50 years for Dy. Directors and below 45 years for Senior Research Officer. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules. Benefits of pension admissible. Private practice is not allowed. However, NPA as per rules of the Council is admissible to Medical Graduates only. Application forms and **other details** are obtainable from the Office of the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4911, New Delhi-110029. Forms duly completed should be sent to Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4911, New Delhi-110029 with a crossed IPO for Rs. 8/- payable to DG, ICMR, New Delhi. SC/ ST candidates are exempted from this payment. Incomplete and late applications or without postal orders will not be entertained. Any canvassing by or on behalf of the candidates or to bring political or other outside influence with regard to the selection/recruitment shall be considered a DISQUALIFICATION.

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VICTORIA JUBILEE TECHNICAL INSTITUTE

MATUNGA, MUMBAI-400 019.

Admission Notice Session - 1996-97

MASTER OF COMPUTER APPLICATION (M.C.A.)

Applications are invited for admission to M.C.A. (Post Graduate) course of University of Bombay.

No. of seats	:	30 10 Seats reserved for candidates from states other than Maharashtra
SC/ST Reservation	:	15% & 7.5% respectively.
Duration	:	3 years
Eligibility for admission	:	Graduate of Indian University with 55% of marks (50% for SC/ST candidates) Mathematics must be one of the subjects at the H.S.C examination. Students appearing for the Degree Examination may also apply.

Application forms will be available from 6th May 1996. On cash payment of Rs. 60/- (Rs. 50/- for prospectus and Rs. 10/- for the application form) at the cash counter between 10.30 a.m. to 2.00 p.m. (except on Saturdays/Sundays and public holidays). The application form can be obtained by post by sending a crossed Indian Postal Order for Rs. 60/- in favour of the Principal & Secretary V.J.T.I. accompanied by a self addressed envelope of 20 cm x 25 cm on with postage stamp of Rs 6/- denomination affixed to it and marked "MCA ENTRANCE".

The applications complete in all respects accompanied by a crossed Indian Postal Order/Demand Draft for Rs. 250/- towards the entrance test fees in favour of the Principal and Secretary, V.J.T.I. should reach the office of the Principal & Secretary, V.J.T.I., H.R. Mahajani Marg, Matunga, Mumbai-400 019 **on or before 17th June 1996**. Applications will be accepted in person at V.J.T.I. office with a cash payment of Rs. 250/- *before* 17th June 1996. The application fee of Rs. 250/- is non-refundable. Candidates desirous of seeking admission to M.C.A. will have to present themselves for an entrance test.

Day & Date of Entrance Test	:	Saturday 29th June, 1996.
Time	:	2.30 p.m to 4.00 p.m. report 1 hour earlier.
Admission Criteria	:	Score and rank in the Entrance Test.
Fees payable after selection	:	Rs. 4634/- approximately.

Principal & Secretary
V.J.T.I.

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ADMISSION NOTIFICATION 1996-1997

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M.Phil. Courses: Micro Level Planning. Gandhian Thought and Peace Science, Economics, Rural Industries and Management, and Futurology.

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The last date for receipt of completed applications for the UG, PG, PG Diploma, Post Diploma and Diploma Courses is **08.06.1996**, and for M.Phil and Ph.D. programme **30.7.1996**. Apply separately for each course and applications shall be received upto 5.30 P.M. on the deadline dates.

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Ph.D. with first class bachelor's or Master's degree in Engineering/Technology/Science, 10 years distinguished experience in teaching/industry/research, out of which 5 years must be at the level of Assistant Professor or equivalent.

Age below 63 yrs

Applications on plain paper with full particulars of date of birth, educational qualifications, experience etc., and a Crossed bank draft of ***Rs. 25/-*** drawn in favour of *Registrar, Indian School of Mines, Payable at State Bank of India, Indian School of Mines Campus branch, Dhanbad* may be sent in closed cover marked as "Application for Professorship", to the Registrar **by June 30, 1996.** The School reserves the right to relax the above conditions if otherwise exceptionally experienced candidates are available.

B L Jha
Advert. No. 410002/96 **REGISTRAR**

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Eligibility as prescribed by Government of Tamil Nadu.

For more details write to the Principal.

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Sr. No.	Department	Open	SC	ST	DT(A)	Total No of Posts
	PRINCIPAL	01	—	—	—	01
01.	**CIVIL ENGINEERING**					
	a) Professor	01	01	—	—	02
	b) Asstt. Prof	01	01	—	—	02
	c) Lecturers	02	01	01	—	04
02.	**ELECTRONICS ENGINEERING**					
	a) Professor	01	01	—	—	02
	b) Asstt. Prof. (1 Open post for Instrumentation)	03	01	01	01	06
	c) Lecturers	02	—	01	—	03
03.	**COMPUTER ENGINEERING**					
	a) Professor	01	—	—	—	01
	b) Asstt. Prof	02	01	—	—	03
	c) Lecturers	02	01	01	—	04
04.	**MECHANICAL ENGINEERING**					
	a) Professor	02	01	01	—	04
	b) Asstt. Prof	03	01	01	01	06
	c) Lecturers	03	02	01	01	07
05.	**MATHEMATICS**					
	a) Lecturer	—	01	—	—	01
06.	**APPLIED SCIENCE**					
	a) Lecturer (Phy)	01	01	—	—	02
	b) Lecturer (Chem)	—	01	—	—	01
07.	**GEOLOGY**					
	a) Lecturer	01	—	—	—	01
08.	**WORKSHOP**					
	a) Supdt	01	—	—	—	01
09.	**ELECTRICAL ENGINEERING**					
	a) Lecturer	—	01	—	—	01
10.	**LIBRARY**					
	a) Librarian	01	—	—	—	01

11. **Qualification and Experience**

I) **Principal/Professors** : Ph.D. with first class Bachelor or Masters degree in Engg/Technology or First class masters degree in appropriate branch of Engineering. 10 years distinguished experience in teaching as an approved teacher/Industry research out of which five years must be at the level of Assistant Professor.

II) **Assistant Professor/Workshop Supdt.** : First class master's degree in appropriate branch of Engineering/Technology. Five years experience in Teaching/Industry/Research at the appropriate level.

III) **Lecturer** : Sr. No. 1(c), 2(c), 3(c), 4(c) and 9(a) First class Master's degree in Engineering/Technology in appropriate branch or First class B.E. degree in appropriate branch.

IV) **Lecturer** : Sr. No. 5, 6 and 7 MSc First class in appropriate branch with minimum five years of teaching and/or professional experience.

V) **Librarian** : i) Sr. No 10(a) Qualifying the National level Test conducted for the purpose by the UGC or any other agency approved by UGC.

ii) Master degree Lib/Infor-Sc/Docu with atleast 55% marks plus consistently good academic record or Master degree in Arts/Commerce/Science with atleast 55% marks with bachelor's degree in Lib. Sc/Infor Sc/Docu-Sc with atleast 55% marks plus consistently good academic record.

12. Pay Scale and other conditions of service for the above posts will be as laid down by the University of Poona and the Director of Technical Education, Maharashtra State, Mumbai and AICTE. Higher start would be considered in case of candidates with sound academic background and experience. Relaxation of experience is possible in case of deserving candidates.
13. If reserve category candidates are not available for the posts advertised, the posts will be filled in from other category for one academic year only.
14. B.C. candidates should send one copy of their application without enclosing testimonials to Deputy Registrar (Reservation Cell), University of Pune, Ganeshkhind, Pune-7.
15. Candidates opting for voluntary retirement and those who have retired on superannuation may also apply.
16. Applications be made on plain paper with complete Bio-Data along with three attested zerox copies of their testimonials and with a self addressed envelope of size 23x10 cms with Re. 1/- postal stamp affixed on it so as to reach the Institute **within fifteen days** from the date of publication of this advertisement.

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SECRETARY
SANJIVANI EDUCATION SOCIETY

Shri G.V. Nagare
CHAIRMAN
EDUCATION COMMITTEE

Hon. Shri S.G. Kolhe
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SANJIVANI EDUCATION SOCIETY

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JOB VACANCY : FISHERIES TECHNICIAN FOR THE INDO-GERMAN RESERVOIR FISHERIES DEVELOPMENT PROJECT, KERALA

Job : organise, prepare and participate in field trips to various reservoirs in Kerala; organise and carry out fishermen training courses in net making and mending; maintain and repair boat, nets and other field equipment; assist in fish breeding courses for reservoir fishermen.

Eligibility : should be a graduate, good communication skills in English and Malayalam; working experience in various inland fishing gear (gill/seine net and fish traps) design and operation; knowledge of fresh water species.

Salary negotiable.

Apply with detailed resume **within the next 20 days** to : **Christoph Feustel, Indo-German Reservoir Fisheries Development Project, Freshwater Biological Research Station, Malampuzha-678 651, Kerala, India. Fax/Tel.-Nr.: 0091-491-815246.**

Essay Competition

Indian Council of Philosophical Research invites Young Scholars between the age of 20-25 years to participate in an Essay Competition-cum-Seminar on the theme **"The Concept of Swaraj"**. The competitors adjudged First, Second and Third on the basis of their essays and performance in the seminar, will be awarded prizes of Rs. 5,000/-, Rs. 3,000/- and Rs. 2,000/- respectively. Essays in Hindi or English of about 3000 words on the theme are to be submitted **by 31st August, 1996.**

Further details may be obtained by sending a self-addressed envelope affixed with postage stamp of Re. 1/- to :

The Programme Officer
Indian Council of Philosophical Research
Rajendra Bhavan (4th Floor)
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CLASSIFIED ADVERTISEMENTS

ST. XAVIER'S COLLEGE
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WANTED

In the light of G.O.M.S.No. 30/96/ H.Edn. dtd: 12/2/96 prescribing the qualification for Jr. Lecturers (Pre-Degree) applications are invited for the following posts. These posts are subject to sanction by Govt./Uty.

Teaching staff

1. Physics	:	Open merit - (1) Community - (1)
2. Chemistry	:	Open merit - (1)

Age: Below 35 years of age on the 1st day of January 1996.

Qualification: i. Masters degree in the concerned subject at least 50% marks or its equivalent.
ii. B.Ed. degree

Application forms can be had from the Manager on payment of Rs. 100/- by cash or Rs. 110/- by M.O. Apply **within one month** from the date of this publication.

MANAGER

Dnyanprassarak Mandal's

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Applications are invited for the post of Full-time Director of Physical Education in the pay scale of Rs. 2200-75-2800-100-4000. In addition to Basic pay, allowances will be paid according to the rules of Goa University and Goa Government.

Qualifications for the post are as given below:

(i) Master's Degree in Physical Education (High Second Class) with Diploma in Sports coaching from recognised Institutions.

OR

(i) Master's Degree in Physical Education (High Second Class) with record of having represented the University at the Inter-University/State Level in the National Championship.

(ii) Candidate should have cleared the NET. In case candidate having passed eligibility test is not available, candidate fulfilling other conditions would be considered for the appointment on temporary basis.

(iii) Candidate should have good academic record as per Goa University rules and break-in-service if any, should be accounted for.

Applications with full bio-data accompanied by the certificates and statement of marks right from S.S.C. examination must reach the Principal **within 15 days** from the date of publication of this advertisement. Candidates who are already employed shall send their applications through proper channel.

R.D. Arsekar
PRINCIPAL

Bansilal Ramnath Agarwal Charitable Trust's

VISHWAKARMA INSTITUTE OF TECHNOLOGY,
666, Upper Indiranagar, Bibwewadi, PUNE - 411 037.
(Approved by A.I.C.T.E., recognised by State Government and affiliated to the University of Pune)

Applications are invited for the following posts:-

	No. of posts proposed to be advertised					
Name of the Post and Branch	SC	ST	DT(A)	NT(B)	OPEN	TOTAL
PROFESSORS						
1. Mechanical Engineering	1					1
2. Electronics Engineering	1				1	2
3. Computer Engineering	1				1	2
4. Instrumentation Engineering	1				1	2
ASSISTANT PROFESSORS						
1. Mechanical Engineering	1	1			2	4
2. Electronics Engineering	1	1			2	4
3. Computer Engineering	1	1*			2*	4
4. Instrumentation Engineering	1	1*			2*	4
LECTURERS						
1. Mechanical Engineering	2	2	1		4	9
2. Electronics Engineering	1	1	1		4	7
3. Electrical Engineering	1					1
4. Computer Engineering	2*				3	5
5. Instrumentation Engineering		1			1*	2
6. Applied Science -						
Mathematics	1					1
Chemistry	1					1
Physics	1					1
7. Lecturer in Metallurgy	1					1
Workshop Superintendent					1	1

*- One post each is reserved for first class candidates with B.E./M.E. Electronics Engineering.

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Apply on plain paper with full bio-data and copies of testimonials on or before 15-6-96.

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2) HISTORY (Full Time) - Resv. for ST - advt. for 3rd time.
3) PSYCHOLOGY (Full Time) - Resv. for SC - advt. for 1st time.
4) COMPUTER AWARENESS (Full time) - Resv. for SC - advt. for 2nd time.
5) CHEMISTRY (Full Time) - 1 Resv. for SC - advt. for 2nd time.
   - 1 Resv. for ST - advt. for 2nd time.
6) PHYSICS (Full Time) - Resv. for OBC
7) BOTANY (Full Time) - Resv. for SC - advt.for 2nd time.
8) LIBRARIAN (Full Time) - Resv. for SC - advt. for 1st time.
9) POLITICAL SCIENCE (Part Time)

N.B.:-

1) For the reserved posts advertised for the first time, if no suitable candidates are available from the above mentioned categories, candidates from general category will be considered for appointment temporarily for one year.

2) ACADEMIC QUALIFICATIONS:

A) **For Lecturer's Posts**

i) Master's Degree in the relevant subject (i.e. minimum 6 papers) with at least 55% marks or its equivalent grade and good academic record and all other conditions laid down by UGC.

ii) The Candidates for Lecturer's posts must have passed the National Eligibility Test for Lecturers conducted by UGC/CSIR or similar Tests accredited by UGC. In case, candidates having passed NET are not available or found unsuitable otherwise, other suitable candidates would be appointed on purely temporary basis.

B) **Minimum qualifications for LIBRARIAN**

i) Qualifying the national level test approved by UGC. Desirable: M.Phil/Ph.D degree in Library Science/Inf. Serv./ Doc. Archives and Manuscript keeping.

ii) Master's degree in Library Science/Information Science/Documentation or an equivalent professional degree with at least 55% marks or its equivalent grade plus a consistently good academic record.

OR

Master's Degree in Arts/Science/Commerce or equivalent degree with at least fifty-five percent marks or its equivalent grade with Bachelor's degree in Library Science/Information Science/Documentation or an equivalent professional degree with at least fifty-five per cent marks or its equivalent grade plus a consistently good academic record.

3) Scales of Pay (For Lecturer as well as Librarian):

Rs. 2200-75-2800-100-4000 plus admissible allowances.

Persons who are already employed shall send their applications through proper channel. Break in service, if any, should be accounted for.

4) True-copies of marks Statements of all public Examinations passed, should be enclosed.

5) Applicants from the reserved categories should attach a certified copy of Caste Certificate.

6) Interested candidates should apply giving full details, viz. Full name, Address, Date of Birth, Percentage of marks from SSC onwards, subjects offered at all public exams, teaching experience, if any, and any other details.

7) Applications complete in all respects, should reach the Principal **within 15 days from the date of publication of this advertisement.**

Dr. G.N. Mishra
PRINCIPAL

ST. THOMAS COLLEGE
KOZHENCHERI
PIN 689 641

WANTED

Junior Lecturers - Pre-Degree

ENGLISH - 3 (Substantive - 1, Leave vacancies - 2)
Open and Community Merit.

CHEMISTRY - 2 (Substantive - 1, Leave vacancy - 1)
Open and Community Merit.

(Posts subject to the approval of the University and the Government)

Minimum Qualifications: 1. Second Class Master's Degree in the subject with 50% marks. 2. B.Ed.

Those who are appointed to these posts have to teach only at the Pre-degree level. They will not have any claim for appointment in any vacancy that may arise in future at the Degree level. Application forms can be obtained from the College Office on payment of Rs 100/- (Rs 110/- by post).

Apply **within thirty days** of this notification.

PRINCIPAL

MAR ATHANASIUS COLLEGE ASSOCIATION
KOTHAMANGALAM-686 666,
KERALA

Applications are invited for the following posts in the Mar Athanasius College of Engineering, Kothamangalam.

1. Lecturer in Computer Science & Engg. : 1

2. Lecturer in Computer Science & Engg. (anticipated) : 1

Scale of pay, qualifications and age will be as per norms prescribed by the A.I.C.T.E.

Application forms and other details can be had from the Principal, M.A. College of Engineering, Kothamangalam-686 666, on payment of Rs. 100/- in person or Rs. 100/- by D.D. drawn in the name of the Secretary, M.A. College Association, Kothamangalam, payable at any scheduled bank at Kothamangalam, with a self-addressed envelope 23x10 cm affixing postal stamps worth Rs. 7/-. Filled up applications should reach the office of the Secretary, Mar Athanasius College Association, Kothamangalam **within 30 days** of the date of publication of this advertisement.

SECRETARY

THE UNIVERSITY OF BURDWAN

Advertisement No. 9/95-96 dated 15.5.1996

Applications in the prescribed form are invited for the following teaching posts in the approved UGC's scales of pay PLUS dearness and other admissible allowances and pensionary benefits according to the University Rules : (1) **Professor of Zoology** - one post; (2) **Professor of Law** - one post; (3) **Professor of Business Administration** - one post; (4) **Reader in Economics** - one post; (5) **Lecturer in Economics** - one post (Lien bound but likely to be lien free); (6) **Lecturer in History** - one post; (7) **Lecturer in Computer Science (PGDCSA)** - one post.

Minimum Qualifications : As prescribed by the UGC. For the post No. 7, in addition to UGC norms, any one of the following : (i) MCA (Master in Computer Applications); (ii) MCSA (Master in Computer Science and Applications); (iii) M.Sc. (Computer Science); (iv) M.Sc./M.Tech. in Computer Science; (v) M.Sc. (Physical or Mathematical Sciences) plus DCA with one year's experience in Computer Applications. **Desirable** · Ph.D. in Computer Science or Computer Applications or in an allied subject.

Specialisation or Proficiency : For (1) Entomology/Parasitology/Cell Biology/Fish & Fisheries/Cytology & Molecular Genetics/Ecology, for (2) Criminal Law/Family Law/Labour Laws; for (3) Open (covering specialisation in all major functional areas of management); for (4) Open (any branch of the subject); for (5) Statistics & Econometrics; for (6) Open (any branch of the subject) and (7) Computer Applications in Business Administration/Computer Software and Mathematics of Computation. Prescribed application forms alongwith the particulars of the UGC prescribed qualifications may be obtained from the University Sales Counter, Rajbati Office personally on payment of Rs. 20/- in cash from 11 a.m. to 1.30 p.m. on working days (except 2nd & 4th Saturdays) or by sending a self-addressed stamped (Rs. 2/-) envelope (11" x 9") accompanied by crossed IPO of Rs. 20/- drawn in favour of the Finance Officer, University of Burdwan. Last date for submission of applications to the Registrar, University of Burdwan, Rajbati, Burdwan-713 104 with the requisite fee of Rs. 25/- payable in the manner indicated above is **10.6.1996**.

REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Powai, Mumbai 400 076

Advt. No. I-4/96-97

VACANCIES FOR RESERVED CATEGORIES

Applications are invited for the following vacancies :

1. DEPUTY REGISTRAR - Finance & Accounts
(Reserved for Scheduled Caste)
Qualifications & Experience : A Bachelor's degree with atleast 55% marks or its equivalent grade. Should have the desirable leadership quality with 10 years experience in accounts and finance areas as Assistant Registrar or in a post carrying a scale of pay of Rs. 2200-4000 in an Accounts or Audit Office under Government, Educational or Research Institution or in a big commercial organisation of national standing, with sound knowledge of accounting (including budget), Audit and financing procedure as required in a Government organisation.

2. ASSISTANT REGISTRAR - Stores
(Reserved for Scheduled Tribe)
Qualifications & Experience : A Bachelor's degree with atleast 55% marks or its equivalent grade. Eight years relevant experience in a responsible position with atleast 3 years supervisory experience in the lower grade of Rs. 2000-3200/3500 or equivalent, under Govt. or any large educational institution or public sector or business organisation of repute with sound knowledge in materials management.

3. ASSISTANT REGISTRAR - Dean's Office
(Reserved for Scheduled Caste)
Qualifications & Experience : Qualifications as for Post No. 2, but with sound knowledge in general/personnel administration.

4. ASSISTANT REGISTRAR - Academic
(Reserved for Scheduled Tribe)
Qualifications & Experience : Qualifications as for Post No. 2, but with sound knowledge in academic matters, conduct of examinations, etc.

5. ASSISTANT REGISTRAR - Audit
(Reserved for Scheduled Caste)
Qualifications & Experience : A Bachelor's degree with atleast 55% marks or its equivalent grade and/or recognised qualification as Chartered/Cost/SAS Accountant. Experience as stated for Post No. 2 but with sound knowledge in accounting, auditing, financial procedures in a Govt. organisation.

SCALE OF PAY :

Post No. 1	:	Rs. 3700-5700 (Total emoluments on minimum Rs. 10,250/- including HRA)
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Prescribed application forms alongwith detailed information sheet giving required qualifications and experience and general instructions can be obtained from the Registrar by sending self addressed and stamped (Rs. 2/-) envelope of 25 cm x 10 cm. Complete application forms together with copies of certificates should reach the Registrar on or before **30th June, 1996.**

REGISTRAR

Maharashtriya Mandal's

CHANDRASHEKHAR AGASHE COLLEGE OF PHYSICAL EDUCATION

PUNE-37

Affiliated to University of Poona,
Id. No. PU/PN/BPED/037/(1997)

WANTED

Applications are invited for the post of full time Lecturer in Physical Education.

Reservation of Post : Scheduled Tribes only.

Nature of Post : Full-time Lecturer in Physical Education with Science method.

Qualifications :

1) B.Sc. (II Class);
2) B.Ed. (Phy Edn.) with Science method
3) M.Ed. (Phy. Edn.) with 55% marks.
4) Candidate should have passed NET/SET Examination.
5) Expert in Athletics - Desirable.

Pay and Allowances : As per University of Poona and Government of Maharashtra.

How to apply :

1) Candidates who are already in service should send their applications through proper channel.
2) Applications with full bio-data in duplicate alongwith true copies of Testimonials (including Caste cft.) should reach the undersigned within **fifteen (15) days** from the publication of this advertisement.
3) Candidates from Reserved Category are requested to send one additional copy of application without the enclosures directly to the Dy. Registrar, Reservation Cell, University of Poona, Pune-7.

Last date for submission of the application form : Within fifteen (15) days from the publication of this advertisement.

PRINCIPAL

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DHANBAD-826 004

(Advert. No. I/Spon. Project/Acad/96)

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(B) AICTE Project ID. No. TCNE 830/REC/-45 in Petroleum Engineering Department		
RESEARCH ASSISTANT Rs. 3000/-	ONE	M.Sc. in Chemistry/B.Tech in Petroleum Engineering or Chemical Engineering
(C) PROJECT (ISM) CMPDI (4)/94-95/047 Mining Engineering Department		
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*All the above posts are temporary. Appointment will be made initially for one year and may be extended subject to satisfactory performance and extension of duration of projects

Application may be made on plain paper indicating the name of the post and enclosing supporting attested documents latest by 30th June, 1996 to The Assistant Registrar (Academic), Indian School of Mines, Dhanbad-826 004

B.L. Jha
REGISTRAR

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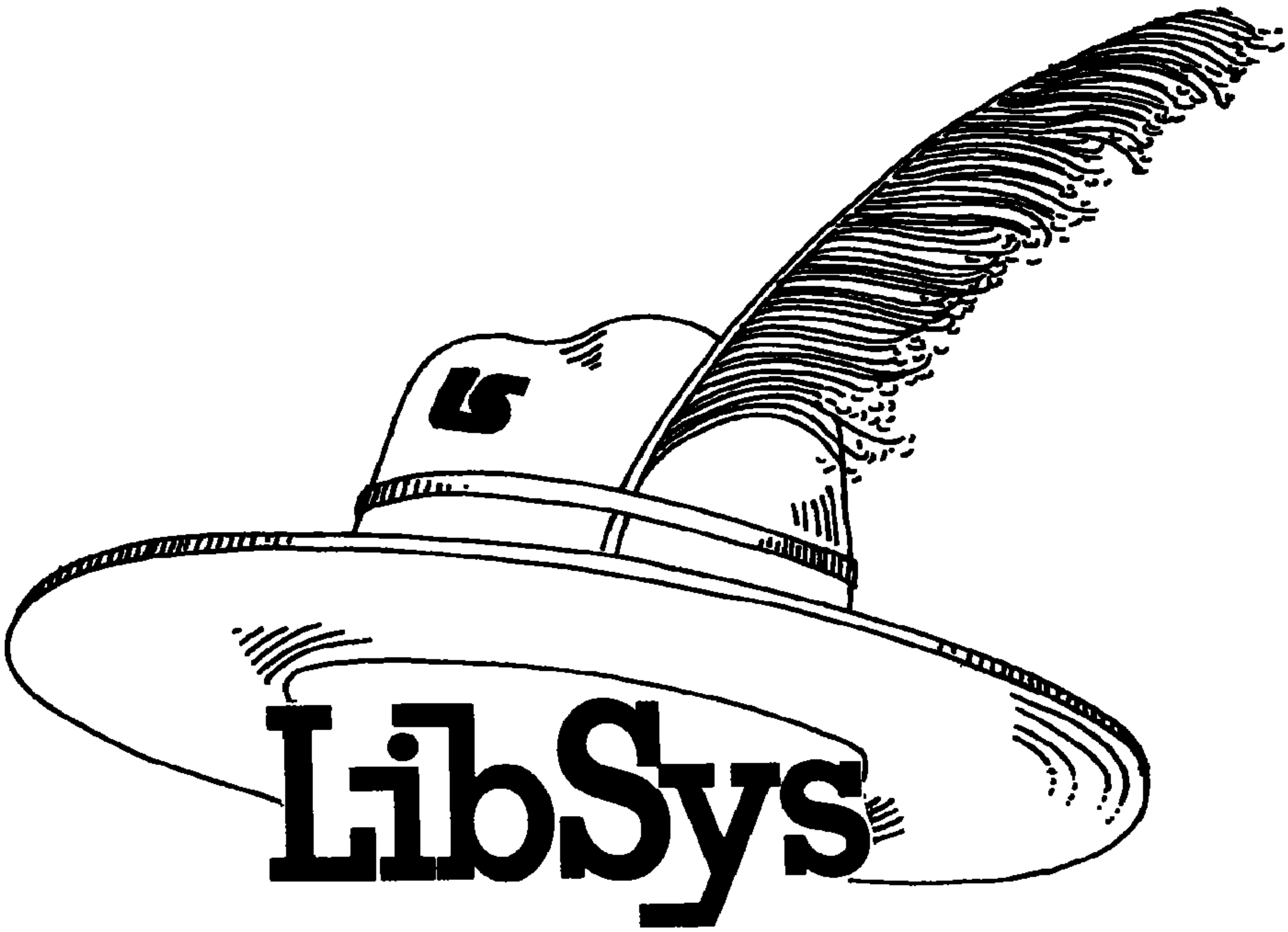

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